New Jersey
ACCUTEST LABORATORIES

07/30/14

Technical Report for

Stantec Consulting Services Inc.

Sunoco - Marcus Hook Facility, PA

213402353

Accutest Job Number: JB54835

Sampling Dates: 12/05/13 - 12/09/13

Report to:

Stantec

Lisa.Votta@stantec.com

ATTN: Lisa Votta

Total number of pages in report: **143**

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

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Laboratory Director

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Sample Summary

Stantec Consulting Services Inc.

Job No: JB54835

Sunoco - Marcus Hook Facility, PA
Project No: 213402353

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB54835-1	12/05/13	14:15	JC	12/05/13	SO	Soil	MH615-1C(0.0-2.0)
JB54835-2	12/05/13	14:20	JC	12/05/13	SO	Soil	MH615-1C(2.0-4.0)
JB54835-3	12/05/13	14:30	JC	12/05/13	SO	Soil	MH615-2C(0.0-2.0)
JB54835-4	12/05/13	14:35	JC	12/05/13	SO	Soil	MH615-2C(2.0-4.0)
JB54835-5	12/05/13	14:40	JC	12/05/13	SO	Soil	MH615-4C(0.0-2.0)
JB54835-6	12/05/13	14:50	JC	12/05/13	SO	Soil	MH615-4C(2.0-4.0)
JB54835-7	12/05/13	14:55	JC	12/05/13	SO	Soil	MH614-1C(0.0-2.0)
JB54835-8	12/05/13	15:00	JC	12/05/13	SO	Soil	MH614-1C(2.0-4.0)
JB54991-1	12/05/13	10:00	JC	12/06/13	SO	Soil	MH614-2C(0.0-2.0)
JB54991-2	12/05/13	10:05	JC	12/06/13	SO	Soil	MH614-2C(2.0-4.0)
JB54991-3	12/05/13	10:10	JC	12/06/13	SO	Soil	MH613-2C(0.0-2.0)
JB54991-4	12/05/13	10:15	JC	12/06/13	SO	Soil	MH613-2C(2.0-4.0)
JB54991-5	12/05/13	10:20	JC	12/06/13	SO	Soil	MH613-3C(0.0-2.0)

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Sample Summary
(continued)

Stantec Consulting Services Inc.

Job No: JB54835

Sunoco - Marcus Hook Facility, PA
Project No: 213402353

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB54991-6	12/05/13	10:25	JC	12/06/13	SO	Soil	MH613-3C(2.0-4.0)
JB55122-1	12/09/13	13:05	JR	12/09/13	SO	Soil	MH613-4C(1.0)
JB55122-2	12/09/13	13:07	JR	12/09/13	SO	Soil	MH613-4C(3.5)
JB55122-3	12/09/13	13:15	JR	12/09/13	SO	Soil	MH613-5C(1.5)
JB55122-4	12/09/13	13:17	JR	12/09/13	SO	Soil	MH613-5C(3.0)
JB55122-5	12/09/13	13:30	JR	12/09/13	SO	Soil	MH613-1C(1.0)
JB55122-6	12/09/13	13:35	JR	12/09/13	SO	Soil	MH613-1C(3.5)
JB55122-7	12/09/13	13:40	JR	12/09/13	SO	Soil	MH614-3C(1.5)
JB55122-8	12/09/13	13:45	JR	12/09/13	SO	Soil	MH614-3C(3.4)
JB55122-9	12/09/13	13:55	JR	12/09/13	SO	Soil	MH615-3C(1.0)
JB55122-10	12/09/13	14:00	JR	12/09/13	SO	Soil	MH615-3C(3.5)

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Stantec Consulting Services Inc.	**Job No**	JB54835
Site:	Sunoco - Marcus Hook Facility, PA	**Report Date**	1/10/2014 12:02:16 P

Between 12/05/2013 and 12/09/2013, 24 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a temperature of 3.6 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of JB54835 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: SO **Batch ID:** VA7565

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB54943-15DUP, JB54943-14MS were used as the QC samples indicated.
- JB54943-15DUP for Dibromofluoromethane: Outside control limits due to matrix interference.
- JB54943-14MS for Dibromofluoromethane: Outside control limits due to matrix interference.

Matrix: SO **Batch ID:** VD8828

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB54823-11MS, JB54823-11MSD were used as the QC samples indicated.
- JB54991-6 for Toluene-D8: Outside control limits due to matrix interference.
- JB54991-3 for Toluene-D8: Outside control limits due to matrix interference.
- JB54991-4 for Toluene-D8: outside control limits due to matrix interference.
- JB54991-6 for 1,2-Dichloroethane-D4: Outside control limits due to matrix interference.
- JB54991-5 for Toluene-D8: Outside control limits due to matrix interference.

Matrix: SO **Batch ID:** VD8829

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB55005-1MS, JB55005-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JB54991-4: Confirmation run for surrogate recoveries.

Matrix: SO **Batch ID:** VE9241

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB55009-18MS, JB55009-18MSD were used as the QC samples indicated.
- Matrix Spike Duplicate Recovery(s) for 1,2,4-Trimethylbenzene, Ethylbenzene are outside control limits. Outside control limits due to matrix interference.
- RPD(s) for MSD for Benzene, Methyl Tert Butyl Ether are outside control limits for sample JB55009-18MSD. Outside control limits due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for Xylene (total) are outside control limits. Outside control limits due to high level in sample relative to spike amount.

Volatiles by GCMS By Method SW846 8260B

Matrix: SO **Batch ID:** VE9244

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB54823-10MS, JB54823-10MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JB54835-4: Diluted due to high concentration of target compound.

Matrix: SO **Batch ID:** VE9245

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB55122-3MS, JB55122-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for Ethylbenzene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- Matrix Spike Duplicate Recovery(s) for Ethylbenzene, Toluene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- Matrix Spike Recovery(s) for Xylene (total) are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for MSD for 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Ethylbenzene, Isopropylbenzene, Methyl Tert Butyl Ether, Toluene are outside control limits for sample JB55122-3MSD. Outside control limits due to high level in sample relative to spike amount.
- JB55122-3MSD for Benzene: Outside in house control limits.
- JB55122-6 for Toluene-D8: Outside control limits due to matrix interference. Confirmed by reanalysis.
- JB55122-3MSD for Xylene (total): Outside in house control limits.
- JB55122-3MSD for tert-Butylbenzene: Outside in house control limits.
- JB55122-3MSD for sec-Butylbenzene: Outside in house control limits.
- JB55122-3MSD for 1,2-Dichloroethane: Outside in house control limits.

Matrix: SO **Batch ID:** VE9247

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB55185-11AMS, JB55185-11AMSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JB55122-6: Confirmation run for surrogate recoveries.

Matrix: SO **Batch ID:** VE9249

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB55345-26AMS, JB55345-26AMSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: SO **Batch ID:** VE9251

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB55632-2MS, JB55632-2MSD were used as the QC samples indicated.

Matrix: SO **Batch ID:** VV6025

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB54823-1MS, JB54823-2DUP were used as the QC samples indicated.
- RPD(s) for Duplicate for Benzene, Toluene are outside control limits for sample JB54823-2DUP. High RPD due to low concentration of hit

Matrix: SO **Batch ID:** VY6133

Volatiles by GCMS By Method SW846 8260B

Matrix: SO **Batch ID:** VY6133

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB55301-3MS, JB55301-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: SO **Batch ID:** VY6135

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB55122-1DUP, JB55122-2MS were used as the QC samples indicated.

Matrix: SO **Batch ID:** VY6136

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB55458-1DUP, JB55458-3MS were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Extractables by GCMS By Method SW846 8270D

Matrix: SO **Batch ID:** M:OP36159

- The data for SW846 8270D meets quality control requirements.
- JB54991-2: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54991-1: Analysis performed at Accutest Laboratories, Marlborough, MA.

Matrix: SO **Batch ID:** M:OP36179

- The data for SW846 8270D meets quality control requirements.
- JB55122-7: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB55122-8: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB55122-9: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB55122-10: Analysis performed at Accutest Laboratories, Marlborough, MA.

Matrix: SO **Batch ID:** OP71216

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB54835-1MS, JB54835-1MSD were used as the QC samples indicated.

Matrix: SO **Batch ID:** OP71436

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB54943-9MS, JB54943-9MSD were used as the QC samples indicated.

Matrix: SO **Batch ID:** OP71437

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB55242-4AMS, JB55242-4AMSD were used as the QC samples indicated.
- Matrix Spike Duplicate Recovery(s) for 2-Methylnaphthalene, Naphthalene are outside control limits. Outside control limits due to matrix interference.
- OP71437-MSD for Nitrobenzene-d5: Outside control limits due to matrix interference.

Volatiles by GC By Method SW846 8011

Matrix: SO **Batch ID:** M:OP36152

- The data for SW846 8011 meets quality control requirements.
- JB54835-2: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-8: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-7: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-6: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-5: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-4: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54991-6: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-3: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-1: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54991-2: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54991-3: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54991-4: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54991-5: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54991-1: Analysis performed at Accutest Laboratories, Marlborough, MA.

Matrix: SO **Batch ID:** M:OP36167

- The data for SW846 8011 meets quality control requirements.
- JB55122-3: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB55122-1: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB55122-10: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB55122-9: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB55122-2: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB55122-4: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB55122-5: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB55122-6: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB55122-7: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB55122-8: Analysis performed at Accutest Laboratories, Marlborough, MA.

Metals By Method SW846 6010C

Matrix:	SO	Batch ID:	M:MP22232

- The data for SW846 6010C meets quality control requirements.
- JB54835-1 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.

Matrix:	SO	Batch ID:	M:MP22237

- The data for SW846 6010C meets quality control requirements.
- JB54835-3 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-8 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-7 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-6 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-4 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-2 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-5 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.

Matrix:	SO	Batch ID:	MP76642

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB55529-1MS, JB55529-1MSD, JB55529-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Lead are outside control limits for sample MP76642-SD1. Serial dilution indicates possible matrix interference.
- MP76642-MB1 for Zinc: All reported results <RL or >10x MB value.

Matrix:	SO	Batch ID:	MP76729

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB55734-12AMS, JB55734-12AMSD, JB55734-12ASDL were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Lead, Vanadium, Zinc are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- Matrix Spike Duplicate Recovery(s) for Cobalt, Vanadium, Lead, Nickel are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- RPD(s) for MSD for Vanadium, Zinc, Lead, Nickel are outside control limits for sample MP76729-S2. High rpd due to possible sample nonhomogeneity.
- MP76729-S1 for Vanadium: Spike recovery indicates possible matrix interference.
- MP76729-S1 for Zinc: Spike recovery indicates possible matrix interference.

Wet Chemistry By Method ASTM 4643-00

Matrix:	SO	Batch ID:	GN96677

- The data for ASTM 4643-00 meets quality control requirements.

Wet Chemistry By Method SM21 2540 B MOD.

Matrix:	SO	Batch ID:	M:GN45452

- The data for SM21 2540 B MOD. meets quality control requirements.
- JB54835-1 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-2 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-4 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-5 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-6 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-7 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-8 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB54835-3 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.

Wet Chemistry By Method SM2540 G-97

Matrix:	SO	Batch ID:	GN96435

- The data for SM2540 G-97 meets quality control requirements.

Matrix:	SO	Batch ID:	GN96642

- The data for SM2540 G-97 meets quality control requirements.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Accutest New Jersey **Job No** JB54835

Site: SECORPAE: Sunoco - Marcus Hook Facility, PA **Report Date** 1/13/2014 3:11:57 PM

24 Sample(s) were collected on between 12/05/2013 and 12/09/2013 and were received at Accutest between 12/05/2013 and 12/09/2013 properly preserved, at 3.8 Deg. C and intact. These Samples received an Accutest job number of JB54835. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method SW846 8270D

Matrix SO **Batch ID:** OP36159

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC27058-3MS, MC27058-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix SO **Batch ID:** OP36179

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC27058-7MS, MC27058-7MSD were used as the QC samples indicated.

Volatiles by GC By Method SW846 8011

Matrix SO **Batch ID:** OP36152

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) JB54835-1MS, JB54835-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix SO **Batch ID:** OP36167

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) JB55122-1MS, JB55122-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010C

Matrix	SO	Batch ID:	MP22232

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26910-5MS, MC26910-5MSD, MC26910-5SDL were used as the QC samples for metals.

Matrix	SO	Batch ID:	MP22237

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26949-3MSD, MC26949-3MS, MC26949-3SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Lead are outside control limits for sample MP22237-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Wet Chemistry By Method SM21 2540 B MOD.

Matrix	SO	Batch ID:	GN45452

- Sample(s) MC27018-1DUP were used as the QC samples for Solids, Percent.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(JB54835).

Summary of Hits

Job Number: JB54835
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 12/05/13 thru 12/09/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB54835-1	**MH615-1C(0.0-2.0)**					
Benzene		11.7	0.97	0.12	ug/kg	SW846 8260B
Toluene		54.2	0.97	0.14	ug/kg	SW846 8260B
Ethylbenzene		2.9	0.97	0.17	ug/kg	SW846 8260B
Xylene (total)		25.1	0.97	0.17	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		0.28 J	4.8	0.15	ug/kg	SW846 8260B
Pyrene		16.6 J	37	14	ug/kg	SW846 8270D
Lead [a]		19.1	0.92	0.15	mg/kg	SW846 6010C
JB54835-2	**MH615-1C(2.0-4.0)**					
Benzene		0.29 J	0.87	0.11	ug/kg	SW846 8260B
Toluene		6.8	0.87	0.12	ug/kg	SW846 8260B
Ethylbenzene		0.37 J	0.87	0.15	ug/kg	SW846 8260B
Xylene (total)		2.8	0.87	0.15	ug/kg	SW846 8260B
Pyrene		24.4 J	38	15	ug/kg	SW846 8270D
Lead [a]		21.3	0.94	0.16	mg/kg	SW846 6010C
JB54835-3	**MH615-2C(0.0-2.0)**					
Benzene		61700	550	69	ug/kg	SW846 8260B
Toluene		75100	550	77	ug/kg	SW846 8260B
Ethylbenzene		8540	550	95	ug/kg	SW846 8260B
Xylene (total)		59200	550	97	ug/kg	SW846 8260B
Isopropylbenzene		817 J	2700	80	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		18500	2700	87	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		5920	2700	120	ug/kg	SW846 8260B
Benzo(a)pyrene		20.9 J	36	11	ug/kg	SW846 8270D
Benzo(g,h,i)perylene		26.6 J	36	14	ug/kg	SW846 8270D
Naphthalene		132	36	9.9	ug/kg	SW846 8270D
Phenanthrene		26.4 J	36	17	ug/kg	SW846 8270D
Pyrene		30.4 J	36	14	ug/kg	SW846 8270D
Lead [a]		14.2	0.92	0.15	mg/kg	SW846 6010C
JB54835-4	**MH615-2C(2.0-4.0)**					
Benzene [b]		10300	120	15	ug/kg	SW846 8260B
Toluene [b]		3800	120	17	ug/kg	SW846 8260B
Ethylbenzene [b]		208	120	21	ug/kg	SW846 8260B
Xylene (total) [b]		1510	120	22	ug/kg	SW846 8260B
Isopropylbenzene [b]		45.8 J	610	18	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene [b]		449 J	610	19	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene [b]		162 J	610	27	ug/kg	SW846 8260B
Phenanthrene		19.2 J	39	18	ug/kg	SW846 8270D

Summary of Hits

Job Number: JB54835
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 12/05/13 thru 12/09/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Lead [a]		7.2	0.95	0.16	mg/kg	SW846 6010C
JB54835-5	**MH615-4C(0.0-2.0)**					
Benzene		11.9	0.85	0.11	ug/kg	SW846 8260B
Toluene		17.2	0.85	0.12	ug/kg	SW846 8260B
Ethylbenzene		2.0	0.85	0.15	ug/kg	SW846 8260B
Xylene (total)		13.3	0.85	0.15	ug/kg	SW846 8260B
Isopropylbenzene		0.21 J	4.2	0.12	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		3.2 J	4.2	0.14	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		1.1 J	4.2	0.19	ug/kg	SW846 8260B
Pyrene		17.4 J	34	13	ug/kg	SW846 8270D
Lead [a]		27.7	0.93	0.16	mg/kg	SW846 6010C
JB54835-6	**MH615-4C(2.0-4.0)**					
Benzene		42.2	0.89	0.11	ug/kg	SW846 8260B
Toluene		98.4	0.89	0.13	ug/kg	SW846 8260B
Ethylbenzene		6.4	0.89	0.16	ug/kg	SW846 8260B
Xylene (total)		50.8	0.89	0.16	ug/kg	SW846 8260B
Isopropylbenzene		0.25 J	4.4	0.13	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		3.7 J	4.4	0.14	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		1.3 J	4.4	0.20	ug/kg	SW846 8260B
Benzo(a)anthracene		18.5 J	37	12	ug/kg	SW846 8270D
Benzo(a)pyrene		18.3 J	37	11	ug/kg	SW846 8270D
Benzo(b)fluoranthene		20.4 J	37	12	ug/kg	SW846 8270D
Benzo(g,h,i)perylene		19.9 J	37	14	ug/kg	SW846 8270D
Chrysene		16.2 J	37	13	ug/kg	SW846 8270D
Phenanthrene		18.3 J	37	17	ug/kg	SW846 8270D
Pyrene		68.8	37	14	ug/kg	SW846 8270D
Lead [a]		25.8	0.95	0.16	mg/kg	SW846 6010C
JB54835-7	**MH614-1C(0.0-2.0)**					
Benzene		833	120	15	ug/kg	SW846 8260B
Toluene		247000	2400	350	ug/kg	SW846 8260B
Ethylbenzene		14800	120	21	ug/kg	SW846 8260B
Xylene (total)		126000	2400	430	ug/kg	SW846 8260B
Isopropylbenzene		215 J	610	18	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		203 J	610	19	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		126 J	610	27	ug/kg	SW846 8260B
Lead [a]		4.2	0.98	0.17	mg/kg	SW846 6010C

Summary of Hits

Job Number: JB54835
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 12/05/13 thru 12/09/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB54835-8	**MH614-1C(2.0-4.0)**					
Benzene		170	110	14	ug/kg	SW846 8260B
Toluene		35000	1100	160	ug/kg	SW846 8260B
Ethylbenzene		3630	110	19	ug/kg	SW846 8260B
Xylene (total)		30700	110	20	ug/kg	SW846 8260B
Isopropylbenzene		82.9 J	560	16	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		164 J	560	18	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		80.9 J	560	25	ug/kg	SW846 8260B
Lead [a]		6.4	0.95	0.16	mg/kg	SW846 6010C
JB54991-1	**MH614-2C(0.0-2.0)**					
Toluene		0.24 J	1.0	0.14	ug/kg	SW846 8260B
Xylene (total)		0.34 J	1.0	0.18	ug/kg	SW846 8260B
Lead		13.5	2.5	0.26	mg/kg	SW846 6010C
JB54991-2	**MH614-2C(2.0-4.0)**					
Benzene		0.88 J	1.0	0.13	ug/kg	SW846 8260B
Toluene		0.44 J	1.0	0.14	ug/kg	SW846 8260B
Xylene (total)		0.27 J	1.0	0.18	ug/kg	SW846 8260B
Lead		8.4	2.4	0.25	mg/kg	SW846 6010C
JB54991-3	**MH613-2C(0.0-2.0)**					
Ethylbenzene		132	110	19	ug/kg	SW846 8260B
Xylene (total)		1260	110	19	ug/kg	SW846 8260B
sec-Butylbenzene		156 J	540	19	ug/kg	SW846 8260B
tert-Butylbenzene		30.5 J	540	18	ug/kg	SW846 8260B
Cyclohexane		61100	5400	280	ug/kg	SW846 8260B
Isopropylbenzene		98.9 J	540	16	ug/kg	SW846 8260B
Naphthalene		330 J	540	20	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		4790	540	17	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		1710	540	24	ug/kg	SW846 8260B
Cobalt		13.4	6.4	0.084	mg/kg	SW846 6010C
Lead		8.9	2.6	0.27	mg/kg	SW846 6010C
Nickel		17.9	5.1	0.10	mg/kg	SW846 6010C
Vanadium		24.6	6.4	0.093	mg/kg	SW846 6010C
Zinc		49.8	2.6	0.30	mg/kg	SW846 6010C
JB54991-4	**MH613-2C(2.0-4.0)**					
Ethylbenzene		40.8 J	120	21	ug/kg	SW846 8260B
sec-Butylbenzene		123 J	590	21	ug/kg	SW846 8260B

Summary of Hits

Job Number: JB54835
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 12/05/13 thru 12/09/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
tert-Butylbenzene		40.9 J	590	19	ug/kg	SW846 8260B
Cyclohexane		8000	590	30	ug/kg	SW846 8260B
Isopropylbenzene		314 J	590	17	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		113 J	590	19	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		45.5 J	590	26	ug/kg	SW846 8260B
bis(2-Ethylhexyl)phthalate		54.9 J	78	34	ug/kg	SW846 8270D
2-Methylnaphthalene		58.4 J	78	22	ug/kg	SW846 8270D
Pyrene		22.8 J	39	15	ug/kg	SW846 8270D
Cobalt		11.0	6.0	0.080	mg/kg	SW846 6010C
Lead		7.1	2.4	0.26	mg/kg	SW846 6010C
Nickel		12.6	4.8	0.095	mg/kg	SW846 6010C
Vanadium		28.0	6.0	0.088	mg/kg	SW846 6010C
Zinc		36.5	2.4	0.28	mg/kg	SW846 6010C
JB54991-5	**MH613-3C(0.0-2.0)**					
Benzene		3210	100	13	ug/kg	SW846 8260B
Toluene		101	100	15	ug/kg	SW846 8260B
Ethylbenzene		9120	100	18	ug/kg	SW846 8260B
Xylene (total)		67000	2100	370	ug/kg	SW846 8260B
sec-Butylbenzene		2310	520	19	ug/kg	SW846 8260B
Cyclohexane		215000	10000	530	ug/kg	SW846 8260B
Hexane		69800	10000	1100	ug/kg	SW846 8260B
Isopropylbenzene		2520	520	15	ug/kg	SW846 8260B
Naphthalene		4950	520	19	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		37400	10000	330	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		16800	520	23	ug/kg	SW846 8260B
1,1'-Biphenyl		196	72	4.1	ug/kg	SW846 8270D
bis(2-Ethylhexyl)phthalate		51.4 J	72	32	ug/kg	SW846 8270D
2-Methylnaphthalene		3180	72	20	ug/kg	SW846 8270D
Pyrene		18.3 J	36	14	ug/kg	SW846 8270D
Cobalt		10.1	5.9	0.078	mg/kg	SW846 6010C
Lead		20.7	2.4	0.25	mg/kg	SW846 6010C
Nickel		18.2	4.7	0.094	mg/kg	SW846 6010C
Vanadium		30.4	5.9	0.087	mg/kg	SW846 6010C
Zinc		183	2.4	0.28	mg/kg	SW846 6010C
JB54991-6	**MH613-3C(2.0-4.0)**					
Benzene		9130	100	13	ug/kg	SW846 8260B
Toluene		97.5 J	100	14	ug/kg	SW846 8260B
Ethylbenzene		26900	2500	440	ug/kg	SW846 8260B
Xylene (total)		86400	2500	440	ug/kg	SW846 8260B
Methyl Tert Butyl Ether		43.0 J	100	34	ug/kg	SW846 8260B
sec-Butylbenzene		3240	500	18	ug/kg	SW846 8260B

Summary of Hits

Job Number: JB54835
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 12/05/13 thru 12/09/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Cyclohexane		328000	12000	640	ug/kg	SW846 8260B
Hexane		92200	12000	1300	ug/kg	SW846 8260B
Isopropylbenzene		5100	500	15	ug/kg	SW846 8260B
Naphthalene		6860	500	18	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		51000	12000	400	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		19600	500	22	ug/kg	SW846 8260B
1,1'-Biphenyl		316	76	4.4	ug/kg	SW846 8270D
bis(2-Ethylhexyl)phthalate		60.8 J	76	33	ug/kg	SW846 8270D
Fluoranthene		28.1 J	38	17	ug/kg	SW846 8270D
Fluorene		39.9	38	12	ug/kg	SW846 8270D
2-Methylnaphthalene		5930	300	84	ug/kg	SW846 8270D
Naphthalene		3160	38	10	ug/kg	SW846 8270D
Phenanthrene		25.2 J	38	17	ug/kg	SW846 8270D
Pyrene		32.5 J	38	15	ug/kg	SW846 8270D
Cobalt		8.9	5.3	0.070	mg/kg	SW846 6010C
Lead		31.8	2.1	0.23	mg/kg	SW846 6010C
Nickel		17.1	4.3	0.084	mg/kg	SW846 6010C
Vanadium		29.7	5.3	0.078	mg/kg	SW846 6010C
Zinc		312	2.1	0.25	mg/kg	SW846 6010C
JB55122-1	**MH613-4C(1.0)**					
Cobalt		8.5	5.4	0.072	mg/kg	SW846 6010C
Lead		28.5	2.2	0.23	mg/kg	SW846 6010C
Nickel		17.8	4.3	0.086	mg/kg	SW846 6010C
Vanadium		34.2	5.4	0.079	mg/kg	SW846 6010C
Zinc		252	2.2	0.25	mg/kg	SW846 6010C
JB55122-2	**MH613-4C(3.5)**					
sec-Butylbenzene		0.71 J	4.8	0.17	ug/kg	SW846 8260B
tert-Butylbenzene		0.95 J	4.8	0.16	ug/kg	SW846 8260B
Cyclohexane		0.69 J	4.8	0.24	ug/kg	SW846 8260B
Isopropylbenzene		0.46 J	4.8	0.14	ug/kg	SW846 8260B
Naphthalene		0.86 J	4.8	0.17	ug/kg	SW846 8260B
bis(2-Ethylhexyl)phthalate		48.0 J	77	34	ug/kg	SW846 8270D
Cobalt		8.7	6.4	0.085	mg/kg	SW846 6010C
Lead		73.4	2.6	0.27	mg/kg	SW846 6010C
Nickel		22.0	5.1	0.10	mg/kg	SW846 6010C
Vanadium		26.8	6.4	0.093	mg/kg	SW846 6010C
Zinc		1130	2.6	0.30	mg/kg	SW846 6010C
JB55122-3	**MH613-5C(1.5)**					
Toluene		4210	97	14	ug/kg	SW846 8260B

Summary of Hits

Job Number: JB54835
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 12/05/13 thru 12/09/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Ethylbenzene		15500	97	17	ug/kg	SW846 8260B
Xylene (total)		263000	1900	350	ug/kg	SW846 8260B
Isopropylbenzene		207 J	490	14	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		328 J	490	16	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		152 J	490	22	ug/kg	SW846 8260B
2,4-Dimethylphenol		535	190	62	ug/kg	SW846 8270D
2-Methylphenol		62.6 J	74	42	ug/kg	SW846 8270D
3&4-Methylphenol		73.2 J	74	47	ug/kg	SW846 8270D
Benzo(a)anthracene		23.9 J	37	12	ug/kg	SW846 8270D
Benzo(a)pyrene		19.7 J	37	11	ug/kg	SW846 8270D
Benzo(b)fluoranthene		28.9 J	37	12	ug/kg	SW846 8270D
Benzo(g,h,i)perylene		23.7 J	37	14	ug/kg	SW846 8270D
Chrysene		27.3 J	37	13	ug/kg	SW846 8270D
Fluoranthene		44.1	37	16	ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		16.3 J	37	13	ug/kg	SW846 8270D
Phenanthrene		32.2 J	37	17	ug/kg	SW846 8270D
Pyrene		37.4	37	14	ug/kg	SW846 8270D
Cobalt		8.1	5.6	0.073	mg/kg	SW846 6010C
Lead		15.1	2.2	0.24	mg/kg	SW846 6010C
Nickel		15.1	4.5	0.088	mg/kg	SW846 6010C
Vanadium		33.0	5.6	0.081	mg/kg	SW846 6010C
Zinc		51.9	2.2	0.26	mg/kg	SW846 6010C
JB55122-4	**MH613-5C(3.0)**					
Toluene		7660	110	16	ug/kg	SW846 8260B
Ethylbenzene		8080	110	20	ug/kg	SW846 8260B
Xylene (total)		93300	1100	200	ug/kg	SW846 8260B
Isopropylbenzene		73.5 J	560	17	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		123 J	560	18	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		27.3 J	560	25	ug/kg	SW846 8260B
2,4-Dimethylphenol		186 J	190	64	ug/kg	SW846 8270D
Anthracene		33.4 J	38	13	ug/kg	SW846 8270D
Benzo(a)anthracene		34.9 J	38	12	ug/kg	SW846 8270D
Benzo(a)pyrene		21.9 J	38	12	ug/kg	SW846 8270D
Benzo(b)fluoranthene		28.1 J	38	13	ug/kg	SW846 8270D
Benzo(g,h,i)perylene		22.5 J	38	14	ug/kg	SW846 8270D
Chrysene		30.0 J	38	13	ug/kg	SW846 8270D
Fluoranthene		106	38	17	ug/kg	SW846 8270D
Fluorene		26.1 J	38	12	ug/kg	SW846 8270D
Phenanthrene		121	38	17	ug/kg	SW846 8270D
Pyrene		112	38	15	ug/kg	SW846 8270D
Cobalt		7.2	6.0	0.079	mg/kg	SW846 6010C
Lead		18.8	2.4	0.25	mg/kg	SW846 6010C
Nickel		14.4	4.8	0.094	mg/kg	SW846 6010C

Summary of Hits

Job Number: JB54835
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 12/05/13 thru 12/09/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Vanadium		31.2	6.0	0.087	mg/kg	SW846 6010C
Zinc		61.7	2.4	0.28	mg/kg	SW846 6010C
JB55122-5	**MH613-1C(1.0)**					
Ethylbenzene		0.35 J	0.98	0.17	ug/kg	SW846 8260B
Xylene (total)		1.1	0.98	0.17	ug/kg	SW846 8260B
Cobalt		4.3 B	6.4	0.085	mg/kg	SW846 6010C
Lead		11.6	2.6	0.27	mg/kg	SW846 6010C
Nickel		14.5	5.2	0.10	mg/kg	SW846 6010C
Vanadium		28.9	6.4	0.094	mg/kg	SW846 6010C
Zinc		44.9	2.6	0.30	mg/kg	SW846 6010C
JB55122-6	**MH613-1C(3.5)**					
Benzene		33.1 J	100	13	ug/kg	SW846 8260B
Ethylbenzene		308	100	17	ug/kg	SW846 8260B
Xylene (total)		1420	100	18	ug/kg	SW846 8260B
sec-Butylbenzene		1930	500	18	ug/kg	SW846 8260B
tert-Butylbenzene		332 J	500	16	ug/kg	SW846 8260B
Cyclohexane		13500	500	26	ug/kg	SW846 8260B
Isopropylbenzene		701	500	15	ug/kg	SW846 8260B
2-Methylnaphthalene		42.3 J	73	20	ug/kg	SW846 8270D
Cobalt		5.2 B	6.0	0.079	mg/kg	SW846 6010C
Lead		8.7	2.4	0.25	mg/kg	SW846 6010C
Nickel		10.1	4.8	0.094	mg/kg	SW846 6010C
Vanadium		32.0	6.0	0.087	mg/kg	SW846 6010C
Zinc		36.5	2.4	0.28	mg/kg	SW846 6010C
JB55122-7	**MH614-3C(1.5)**					
Ethylbenzene		0.38 J	0.96	0.17	ug/kg	SW846 8260B
Xylene (total)		2.4	0.96	0.17	ug/kg	SW846 8260B
Isopropylbenzene		0.84 J	4.8	0.14	ug/kg	SW846 8260B
Lead		31.7	2.4	0.25	mg/kg	SW846 6010C
JB55122-8	**MH614-3C(3.4)**					
Benzene		30.0 J	100	13	ug/kg	SW846 8260B
Toluene		6180	100	14	ug/kg	SW846 8260B
Ethylbenzene		817000	10000	1800	ug/kg	SW846 8260B
Xylene (total)		13400000	50000	9000	ug/kg	SW846 8260B
Isopropylbenzene		12800	500	15	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		12200	500	16	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		8230	500	22	ug/kg	SW846 8260B

Summary of Hits

Job Number: JB54835
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 12/05/13 thru 12/09/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Fluorene [a]		22.2 J	120	16	ug/kg	SW846 8270D
Naphthalene [a]		279	120	19	ug/kg	SW846 8270D
Pyrene [a]		15.9 J	120	14	ug/kg	SW846 8270D
Lead		30.1	2.5	0.26	mg/kg	SW846 6010C
JB55122-9	**MH615-3C(1.0)**					
Benzene		15400	110	14	ug/kg	SW846 8260B
Toluene		150	0.95	0.13	ug/kg	SW846 8260B
Ethylbenzene		9.3	0.95	0.17	ug/kg	SW846 8260B
Xylene (total)		4210	110	20	ug/kg	SW846 8260B
Isopropylbenzene		0.93 J	4.8	0.14	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		93.2	4.8	0.15	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		51.6	4.8	0.21	ug/kg	SW846 8260B
Lead		30.1	2.5	0.27	mg/kg	SW846 6010C
JB55122-10	**MH615-3C(3.5)**					
Benzene		43800	1100	130	ug/kg	SW846 8260B
Toluene		480	110	15	ug/kg	SW846 8260B
Ethylbenzene		911	110	19	ug/kg	SW846 8260B
Xylene (total)		456	110	19	ug/kg	SW846 8260B
Isopropylbenzene		422 J	530	16	ug/kg	SW846 8260B
Chrysene [a]		30.1 J	120	15	ug/kg	SW846 8270D
Phenanthrene [a]		76.5 J	120	16	ug/kg	SW846 8270D
Pyrene [a]		37.2 J	120	14	ug/kg	SW846 8270D
Lead		12.5	2.4	0.25	mg/kg	SW846 6010C

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.
(b) Diluted due to high concentration of target compound.

New Jersey ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MH615-1C(0.0-2.0)		
Lab Sample ID:	JB54835-1	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8260B	**Percent Solids:**	84.8
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V140619.D	1	12/12/13	OTR	n/a	n/a	VV6025
Run #2							

	Initial Weight
Run #1	6.1 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	11.7	0.97	0.12	ug/kg	
108-88-3	Toluene	54.2	0.97	0.14	ug/kg	
100-41-4	Ethylbenzene	2.9	0.97	0.17	ug/kg	
1330-20-7	Xylene (total)	25.1	0.97	0.17	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.97	0.33	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.97	0.31	ug/kg	
98-82-8	Isopropylbenzene	ND	4.8	0.14	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	0.28	4.8	0.15	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	ND	4.8	0.21	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		59-130%
17060-07-0	1,2-Dichloroethane-D4	82%		65-123%
2037-26-5	Toluene-D8	104%		80-124%
460-00-4	4-Bromofluorobenzene	96%		71-132%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-1C(0.0-2.0)		
Lab Sample ID:	JB54835-1	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	84.8
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F31216.D	1	12/10/13	JL	12/06/13	OP71216	EF5479
Run #2							

	Initial Weight	Final Volume
Run #1	31.7 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	37	13	ug/kg	
56-55-3	Benzo(a)anthracene	ND	37	12	ug/kg	
50-32-8	Benzo(a)pyrene	ND	37	11	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	37	12	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	37	14	ug/kg	
218-01-9	Chrysene	ND	37	13	ug/kg	
86-73-7	Fluorene	ND	37	12	ug/kg	
91-20-3	Naphthalene	ND	37	10	ug/kg	
85-01-8	Phenanthrene	ND	37	17	ug/kg	
129-00-0	Pyrene	16.6	37	14	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		10-110%
321-60-8	2-Fluorobiphenyl	80%		17-110%
1718-51-0	Terphenyl-d14	88%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH615-1C(0.0-2.0)
Lab Sample ID: JB54835-1
Matrix: SO - Soil
Method: SW846 8011 SW846 8011
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/05/13
Date Received: 12/05/13
Percent Solids: 84.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53191.D	1	12/12/13	AMA	12/11/13	M:OP36152	M:GBB3109
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	2.9	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	113%		61-167%
460-00-4	Bromofluorobenzene (S)	107%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-1C(0.0-2.0)		
Lab Sample ID:	JB54835-1	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
		Percent Solids:	84.8
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	19.1	0.92	0.15	mg/kg	1	12/10/13	12/10/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA16545
(2) Prep QC Batch: M:MP22232

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH615-1C(2.0-4.0)		
Lab Sample ID:	JB54835-2	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8260B	**Percent Solids:**	84.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V140617.D	1	12/12/13	OTR	n/a	n/a	VV6025
Run #2							

	Initial Weight
Run #1	6.8 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.29	0.87	0.11	ug/kg	J
108-88-3	Toluene	6.8	0.87	0.12	ug/kg	
100-41-4	Ethylbenzene	0.37	0.87	0.15	ug/kg	J
1330-20-7	Xylene (total)	2.8	0.87	0.15	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.87	0.30	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.87	0.28	ug/kg	
98-82-8	Isopropylbenzene	ND	4.3	0.13	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	4.3	0.14	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	4.3	0.19	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		59-130%
17060-07-0	1,2-Dichloroethane-D4	84%		65-123%
2037-26-5	Toluene-D8	103%		80-124%
460-00-4	4-Bromofluorobenzene	96%		71-132%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-1C(2.0-4.0)		
Lab Sample ID:	JB54835-2	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	84.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P80572.D	1	12/07/13	AD	12/06/13	OP71216	EP3432
Run #2							

	Initial Weight	Final Volume
Run #1	30.7 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	38	13	ug/kg	
56-55-3	Benzo(a)anthracene	ND	38	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	38	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	38	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	38	14	ug/kg	
218-01-9	Chrysene	ND	38	13	ug/kg	
86-73-7	Fluorene	ND	38	13	ug/kg	
91-20-3	Naphthalene	ND	38	10	ug/kg	
85-01-8	Phenanthrene	ND	38	17	ug/kg	
129-00-0	Pyrene	24.4	38	15	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	107%		10-110%
321-60-8	2-Fluorobiphenyl	99%		17-110%
1718-51-0	Terphenyl-d14	103%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH615-1C(2.0-4.0)
Lab Sample ID: JB54835-2
Matrix: SO - Soil
Method: SW846 8011 SW846 8011
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/05/13
Date Received: 12/05/13
Percent Solids: 84.7

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53192.D	1	12/12/13	AMA	12/11/13	M:OP36152	M:GBB3109
Run #2							

	Initial Weight	Final Volume
Run #1	30.7 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	2.9	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	121%		61-167%
460-00-4	Bromofluorobenzene (S)	119%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-1C(2.0-4.0)		
Lab Sample ID:	JB54835-2	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
		Percent Solids:	84.7
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	21.3	0.94	0.16	mg/kg	1	12/11/13	12/11/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA16549
(2) Prep QC Batch: M:MP22237

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH615-2C(0.0-2.0)		
Lab Sample ID:	JB54835-3	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8260B	**Percent Solids:**	86.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E210639.D	1	12/12/13	HSS	n/a	n/a	VE9244
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.7 g	10.0 ml	20.0 ul
Run #2			

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	61700	550	69	ug/kg	
108-88-3	Toluene	75100	550	77	ug/kg	
100-41-4	Ethylbenzene	8540	550	95	ug/kg	
1330-20-7	Xylene (total)	59200	550	97	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	550	190	ug/kg	
107-06-2	1,2-Dichloroethane	ND	550	170	ug/kg	
98-82-8	Isopropylbenzene	817	2700	80	ug/kg	J
95-63-6	1,2,4-Trimethylbenzene	18500	2700	87	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	5920	2700	120	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%		59-130%
17060-07-0	1,2-Dichloroethane-D4	83%		65-123%
2037-26-5	Toluene-D8	96%		80-124%
460-00-4	4-Bromofluorobenzene	89%		71-132%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-2C(0.0-2.0)		
Lab Sample ID:	JB54835-3	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	86.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P80573.D	1	12/07/13	AD	12/06/13	OP71216	EP3432
Run #2							

	Initial Weight	Final Volume
Run #1	31.7 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	36	13	ug/kg	
56-55-3	Benzo(a)anthracene	ND	36	12	ug/kg	
50-32-8	Benzo(a)pyrene	20.9	36	11	ug/kg	J
205-99-2	Benzo(b)fluoranthene	ND	36	12	ug/kg	
191-24-2	Benzo(g,h,i)perylene	26.6	36	14	ug/kg	J
218-01-9	Chrysene	ND	36	12	ug/kg	
86-73-7	Fluorene	ND	36	12	ug/kg	
91-20-3	Naphthalene	132	36	9.9	ug/kg	
85-01-8	Phenanthrene	26.4	36	17	ug/kg	J
129-00-0	Pyrene	30.4	36	14	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	98%		10-110%
321-60-8	2-Fluorobiphenyl	89%		17-110%
1718-51-0	Terphenyl-d14	89%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH615-2C(0.0-2.0)
Lab Sample ID: JB54835-3
Matrix: SO - Soil
Method: SW846 8011 SW846 8011
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/05/13
Date Received: 12/05/13
Percent Solids: 86.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53193.D	1	12/12/13	AMA	12/11/13	M:OP36152	M:GBB3109
Run #2							

	Initial Weight	Final Volume
Run #1	30.9 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	2.8	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	115%		61-167%
460-00-4	Bromofluorobenzene (S)	113%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-2C(0.0-2.0)		
Lab Sample ID:	JB54835-3	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
		Percent Solids:	86.6
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	14.2	0.92	0.15	mg/kg	1	12/11/13	12/11/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA16549
(2) Prep QC Batch: M:MP22237

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH615-2C(2.0-4.0)		
Lab Sample ID:	JB54835-4	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8260B	**Percent Solids:**	84.3
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E210640.D	1	12/12/13	HSS	n/a	n/a	VE9244
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.3 g	10.0 ml	100 ul
Run #2			

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	10300	120	15	ug/kg	
108-88-3	Toluene	3800	120	17	ug/kg	
100-41-4	Ethylbenzene	208	120	21	ug/kg	
1330-20-7	Xylene (total)	1510	120	22	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	120	42	ug/kg	
107-06-2	1,2-Dichloroethane	ND	120	39	ug/kg	
98-82-8	Isopropylbenzene	45.8	610	18	ug/kg	J
95-63-6	1,2,4-Trimethylbenzene	449	610	19	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	162	610	27	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%		59-130%
17060-07-0	1,2-Dichloroethane-D4	83%		65-123%
2037-26-5	Toluene-D8	97%		80-124%
460-00-4	4-Bromofluorobenzene	89%		71-132%

(a) Diluted due to high concentration of target compound.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-2C(2.0-4.0)		
Lab Sample ID:	JB54835-4	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	84.3
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P80574.D	1	12/07/13	AD	12/06/13	OP71216	EP3432
Run #2							

	Initial Weight	Final Volume
Run #1	30.6 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	39	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	39	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	39	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	39	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	39	14	ug/kg	
218-01-9	Chrysene	ND	39	13	ug/kg	
86-73-7	Fluorene	ND	39	13	ug/kg	
91-20-3	Naphthalene	ND	39	11	ug/kg	
85-01-8	Phenanthrene	19.2	39	18	ug/kg	J
129-00-0	Pyrene	ND	39	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	96%		10-110%
321-60-8	2-Fluorobiphenyl	87%		17-110%
1718-51-0	Terphenyl-d14	93%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-2C(2.0-4.0)		
Lab Sample ID:	JB54835-4	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8011 SW846 8011	**Percent Solids:**	84.3
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53194.D	1	12/12/13	AMA	12/11/13	M:OP36152	M:GBB3109
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	3.0	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	118%		61-167%
460-00-4	Bromofluorobenzene (S)	117%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-2C(2.0-4.0)		
Lab Sample ID:	JB54835-4	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
		Percent Solids:	84.3
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	7.2	0.95	0.16	mg/kg	1	12/11/13	12/11/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA16549
(2) Prep QC Batch: M:MP22237

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH615-4C(0.0-2.0)		
Lab Sample ID:	JB54835-5	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8260B	**Percent Solids:**	85.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V140618.D	1	12/12/13	OTR	n/a	n/a	VV6025
Run #2							

	Initial Weight
Run #1	6.9 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	11.9	0.85	0.11	ug/kg	
108-88-3	Toluene	17.2	0.85	0.12	ug/kg	
100-41-4	Ethylbenzene	2.0	0.85	0.15	ug/kg	
1330-20-7	Xylene (total)	13.3	0.85	0.15	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.85	0.29	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.85	0.27	ug/kg	
98-82-8	Isopropylbenzene	0.21	4.2	0.12	ug/kg	J
95-63-6	1,2,4-Trimethylbenzene	3.2	4.2	0.14	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	1.1	4.2	0.19	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		59-130%
17060-07-0	1,2-Dichloroethane-D4	82%		65-123%
2037-26-5	Toluene-D8	105%		80-124%
460-00-4	4-Bromofluorobenzene	97%		71-132%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-4C(0.0-2.0)		
Lab Sample ID:	JB54835-5	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	85.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P80575.D	1	12/07/13	AD	12/06/13	OP71216	EP3432
Run #2							

	Initial Weight	Final Volume
Run #1	34.5 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	34	12	ug/kg	
56-55-3	Benzo(a)anthracene	ND	34	11	ug/kg	
50-32-8	Benzo(a)pyrene	ND	34	10	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	34	11	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	34	13	ug/kg	
218-01-9	Chrysene	ND	34	11	ug/kg	
86-73-7	Fluorene	ND	34	11	ug/kg	
91-20-3	Naphthalene	ND	34	9.2	ug/kg	
85-01-8	Phenanthrene	ND	34	15	ug/kg	
129-00-0	Pyrene	17.4	34	13	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	93%		10-110%
321-60-8	2-Fluorobiphenyl	88%		17-110%
1718-51-0	Terphenyl-d14	90%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH615-4C(0.0-2.0)
Lab Sample ID: JB54835-5
Matrix: SO - Soil
Method: SW846 8011 SW846 8011
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/05/13
Date Received: 12/05/13
Percent Solids: 85.7

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53195.D	1	12/12/13	AMA	12/11/13	M:OP36152	M:GBB3109
Run #2							

	Initial Weight	Final Volume
Run #1	30.6 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	2.9	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	108%		61-167%
460-00-4	Bromofluorobenzene (S)	109%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-4C(0.0-2.0)		
Lab Sample ID:	JB54835-5	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
		Percent Solids:	85.7
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	27.7	0.93	0.16	mg/kg	1	12/11/13	12/11/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA16549
(2) Prep QC Batch: M:MP22237

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH615-4C(2.0-4.0)		
Lab Sample ID:	JB54835-6	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8260B	**Percent Solids:**	85.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V140620.D	1	12/12/13	OTR	n/a	n/a	VV6025
Run #2							

	Initial Weight
Run #1	6.6 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	42.2	0.89	0.11	ug/kg	
108-88-3	Toluene	98.4	0.89	0.13	ug/kg	
100-41-4	Ethylbenzene	6.4	0.89	0.16	ug/kg	
1330-20-7	Xylene (total)	50.8	0.89	0.16	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.89	0.30	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.89	0.28	ug/kg	
98-82-8	Isopropylbenzene	0.25	4.4	0.13	ug/kg	J
95-63-6	1,2,4-Trimethylbenzene	3.7	4.4	0.14	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	1.3	4.4	0.20	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%		59-130%
17060-07-0	1,2-Dichloroethane-D4	81%		65-123%
2037-26-5	Toluene-D8	104%		80-124%
460-00-4	4-Bromofluorobenzene	97%		71-132%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-4C(2.0-4.0)		
Lab Sample ID:	JB54835-6	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	85.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P80576.D	1	12/07/13	AD	12/06/13	OP71216	EP3432
Run #2							

	Initial Weight	Final Volume
Run #1	31.5 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	37	13	ug/kg	
56-55-3	Benzo(a)anthracene	18.5	37	12	ug/kg	J
50-32-8	Benzo(a)pyrene	18.3	37	11	ug/kg	J
205-99-2	Benzo(b)fluoranthene	20.4	37	12	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	19.9	37	14	ug/kg	J
218-01-9	Chrysene	16.2	37	13	ug/kg	J
86-73-7	Fluorene	ND	37	12	ug/kg	
91-20-3	Naphthalene	ND	37	10	ug/kg	
85-01-8	Phenanthrene	18.3	37	17	ug/kg	J
129-00-0	Pyrene	68.8	37	14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	101%		10-110%
321-60-8	2-Fluorobiphenyl	91%		17-110%
1718-51-0	Terphenyl-d14	93%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH615-4C(2.0-4.0)
Lab Sample ID: JB54835-6
Matrix: SO - Soil
Method: SW846 8011 SW846 8011
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/05/13
Date Received: 12/05/13
Percent Solids: 85.4

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53196.D	1	12/12/13	AMA	12/11/13	M:OP36152	M:GBB3109
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	2.9	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	106%		61-167%
460-00-4	Bromofluorobenzene (S)	101%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-4C(2.0-4.0)		
Lab Sample ID:	JB54835-6	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
		Percent Solids:	85.4
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	25.8	0.95	0.16	mg/kg	1	12/11/13	12/11/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA16549
(2) Prep QC Batch: M:MP22237

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH614-1C(0.0-2.0)		
Lab Sample ID:	JB54835-7	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8260B	**Percent Solids:**	82.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E210609.D	1	12/11/13	HSS	n/a	n/a	VE9241
Run #2	E210641.D	1	12/12/13	HSS	n/a	n/a	VE9244

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.5 g	10.0 ml	100 ul
Run #2	5.5 g	10.0 ml	5.0 ul

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	833	120	15	ug/kg	
108-88-3	Toluene	247000 [a]	2400	350	ug/kg	
100-41-4	Ethylbenzene	14800	120	21	ug/kg	
1330-20-7	Xylene (total)	126000 [a]	2400	430	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	120	42	ug/kg	
107-06-2	1,2-Dichloroethane	ND	120	39	ug/kg	
98-82-8	Isopropylbenzene	215	610	18	ug/kg	J
95-63-6	1,2,4-Trimethylbenzene	203	610	19	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	126	610	27	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%	87%	59-130%
17060-07-0	1,2-Dichloroethane-D4	84%	83%	65-123%
2037-26-5	Toluene-D8	97%	96%	80-124%
460-00-4	4-Bromofluorobenzene	89%	90%	71-132%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH614-1C(0.0-2.0)		
Lab Sample ID:	JB54835-7	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	82.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P80577.D	1	12/07/13	AD	12/06/13	OP71216	EP3432
Run #2							

	Initial Weight	Final Volume
Run #1	32.4 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	38	13	ug/kg	
56-55-3	Benzo(a)anthracene	ND	38	12	ug/kg	
50-32-8	Benzo(a)pyrene	ND	38	11	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	38	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	38	14	ug/kg	
218-01-9	Chrysene	ND	38	13	ug/kg	
86-73-7	Fluorene	ND	38	12	ug/kg	
91-20-3	Naphthalene	ND	38	10	ug/kg	
85-01-8	Phenanthrene	ND	38	17	ug/kg	
129-00-0	Pyrene	ND	38	14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	98%		10-110%
321-60-8	2-Fluorobiphenyl	90%		17-110%
1718-51-0	Terphenyl-d14	97%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH614-1C(0.0-2.0)
Lab Sample ID: JB54835-7
Matrix: SO - Soil
Method: SW846 8011 SW846 8011
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/05/13
Date Received: 12/05/13
Percent Solids: 82.0

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53198.D	1	12/12/13	AMA	12/11/13	M:OP36152	M:GBB3109
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	3.0	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	119%		61-167%
460-00-4	Bromofluorobenzene (S)	124%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH614-1C(0.0-2.0)		
Lab Sample ID:	JB54835-7	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
		Percent Solids:	82.0
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	4.2	0.98	0.17	mg/kg	1	12/11/13	12/11/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA16549
(2) Prep QC Batch: M:MP22237

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH614-1C(2.0-4.0)		
Lab Sample ID:	JB54835-8	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8260B	**Percent Solids:**	82.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E210610.D	1	12/11/13	HSS	n/a	n/a	VE9241
Run #2	E210642.D	1	12/12/13	HSS	n/a	n/a	VE9244

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.0 g	10.0 ml	100 ul
Run #2	6.0 g	10.0 ml	10.0 ul

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	170	110	14	ug/kg	
108-88-3	Toluene	35000 [a]	1100	160	ug/kg	
100-41-4	Ethylbenzene	3630	110	19	ug/kg	
1330-20-7	Xylene (total)	30700	110	20	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	110	38	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	36	ug/kg	
98-82-8	Isopropylbenzene	82.9	560	16	ug/kg	J
95-63-6	1,2,4-Trimethylbenzene	164	560	18	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	80.9	560	25	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%	88%	59-130%
17060-07-0	1,2-Dichloroethane-D4	83%	83%	65-123%
2037-26-5	Toluene-D8	97%	96%	80-124%
460-00-4	4-Bromofluorobenzene	88%	91%	71-132%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH614-1C(2.0-4.0)		
Lab Sample ID:	JB54835-8	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	82.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P80578.D	1	12/07/13	AD	12/06/13	OP71216	EP3432
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	40	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	40	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	40	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	40	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	40	15	ug/kg	
218-01-9	Chrysene	ND	40	13	ug/kg	
86-73-7	Fluorene	ND	40	13	ug/kg	
91-20-3	Naphthalene	ND	40	11	ug/kg	
85-01-8	Phenanthrene	ND	40	18	ug/kg	
129-00-0	Pyrene	ND	40	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	93%		10-110%
321-60-8	2-Fluorobiphenyl	85%		17-110%
1718-51-0	Terphenyl-d14	96%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH614-1C(2.0-4.0)
Lab Sample ID: JB54835-8
Matrix: SO - Soil
Method: SW846 8011 SW846 8011
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/05/13
Date Received: 12/05/13
Percent Solids: 82.7

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53199.D	1	12/12/13	AMA	12/11/13	M:OP36152	M:GBB3109
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	3.0	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	117%		61-167%
460-00-4	Bromofluorobenzene (S)	118%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH614-1C(2.0-4.0)		
Lab Sample ID:	JB54835-8	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/05/13
		Percent Solids:	82.7
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	6.4	0.95	0.16	mg/kg	1	12/11/13	12/11/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA16549
(2) Prep QC Batch: M:MP22237

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH614-2C(0.0-2.0)		
Lab Sample ID:	JB54991-1	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8260B	**Percent Solids:**	85.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A200876.D	1	12/10/13	OTR	n/a	n/a	VA7565
Run #2							

	Initial Weight
Run #1	5.8 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.13	ug/kg	
108-88-3	Toluene	0.24	1.0	0.14	ug/kg	J
100-41-4	Ethylbenzene	ND	1.0	0.18	ug/kg	
1330-20-7	Xylene (total)	0.34	1.0	0.18	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.32	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.15	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.16	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		59-130%
17060-07-0	1,2-Dichloroethane-D4	85%		65-123%
2037-26-5	Toluene-D8	101%		80-124%
460-00-4	4-Bromofluorobenzene	92%		71-132%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH614-2C(0.0-2.0)		
Lab Sample ID:	JB54991-1	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8270D SW846 3546	**Percent Solids:**	85.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	W16451.D	1	12/14/13	AMA	12/11/13	M:OP36159	M:MSW734
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	15	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	14	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	12	ug/kg	
218-01-9	Chrysene	ND	120	14	ug/kg	
86-73-7	Fluorene	ND	120	15	ug/kg	
91-20-3	Naphthalene	ND	120	18	ug/kg	
85-01-8	Phenanthrene	ND	120	16	ug/kg	
129-00-0	Pyrene	ND	120	14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	77%		30-130%
1718-51-0	Terphenyl-d14	92%		30-130%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH614-2C(0.0-2.0)		
Lab Sample ID:	JB54991-1	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8011 SW846 8011	**Percent Solids:**	85.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53237.D	1	12/13/13	AMA	12/11/13	M:OP36152	M:GBB3111
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	2.9	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	104%		61-167%
460-00-4	Bromofluorobenzene (S)	99%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH614-2C(0.0-2.0)		
Lab Sample ID:	JB54991-1	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
		Percent Solids:	85.7
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	13.5	2.5	0.26	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA32897
(2) Prep QC Batch: MP76642

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH614-2C(2.0-4.0)		
Lab Sample ID:	JB54991-2	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8260B	**Percent Solids:**	83.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A200877.D	1	12/10/13	OTR	n/a	n/a	VA7565
Run #2							

	Initial Weight
Run #1	6.0 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.88	1.0	0.13	ug/kg	J
108-88-3	Toluene	0.44	1.0	0.14	ug/kg	J
100-41-4	Ethylbenzene	ND	1.0	0.17	ug/kg	
1330-20-7	Xylene (total)	0.27	1.0	0.18	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.32	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.15	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.16	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		59-130%
17060-07-0	1,2-Dichloroethane-D4	90%		65-123%
2037-26-5	Toluene-D8	103%		80-124%
460-00-4	4-Bromofluorobenzene	93%		71-132%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH614-2C(2.0-4.0)		
Lab Sample ID:	JB54991-2	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8270D SW846 3546	**Percent Solids:**	83.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	W16452.D	1	12/14/13	AMA	12/11/13	M:OP36159	M:MSW734
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	15	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	13	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	12	ug/kg	
218-01-9	Chrysene	ND	120	15	ug/kg	
86-73-7	Fluorene	ND	120	16	ug/kg	
91-20-3	Naphthalene	ND	120	19	ug/kg	
85-01-8	Phenanthrene	ND	120	16	ug/kg	
129-00-0	Pyrene	ND	120	14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	78%		30-130%
1718-51-0	Terphenyl-d14	92%		30-130%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH614-2C(2.0-4.0)
Lab Sample ID: JB54991-2
Matrix: SO - Soil
Method: SW846 8011 SW846 8011
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/05/13
Date Received: 12/06/13
Percent Solids: 83.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53238.D	1	12/13/13	AMA	12/11/13	M:OP36152	M:GBB3111
Run #2							

	Initial Weight	Final Volume
Run #1	30.8 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	2.9	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	84%		61-167%
460-00-4	Bromofluorobenzene (S)	86%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH614-2C(2.0-4.0)		
Lab Sample ID:	JB54991-2	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
		Percent Solids:	83.6
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	8.4	2.4	0.25	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA32897
(2) Prep QC Batch: MP76642

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH613-2C(0.0-2.0)		
Lab Sample ID:	JB54991-3	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8260B	**Percent Solids:**	82.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	D216116.D	1	12/12/13	CM	n/a	n/a	VD8828
Run #2	D216161.D	1	12/13/13	CM	n/a	n/a	VD8829

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.3 g	10.0 ml	100 ul
Run #2	6.3 g	10.0 ml	10.0 ul

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	110	14	ug/kg	
108-88-3	Toluene	ND	110	15	ug/kg	
100-41-4	Ethylbenzene	132	110	19	ug/kg	
1330-20-7	Xylene (total)	1260	110	19	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	110	37	ug/kg	
135-98-8	sec-Butylbenzene	156	540	19	ug/kg	J
98-06-6	tert-Butylbenzene	30.5	540	18	ug/kg	J
110-82-7	Cyclohexane	61100 [a]	5400	280	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	35	ug/kg	
110-54-3	Hexane	ND	540	58	ug/kg	
98-82-8	Isopropylbenzene	98.9	540	16	ug/kg	J
91-20-3	Naphthalene	330	540	20	ug/kg	J
95-63-6	1,2,4-Trimethylbenzene	4790	540	17	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	1710	540	24	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%	98%	59-130%
17060-07-0	1,2-Dichloroethane-D4	112%	115%	65-123%
2037-26-5	Toluene-D8	139% [b]	114%	80-124%
460-00-4	4-Bromofluorobenzene	95%	94%	71-132%

(a) Result is from Run# 2
(b) Outside control limits due to matrix interference.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-2C(0.0-2.0)		
Lab Sample ID:	JB54991-3	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	82.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M100157.D	1	12/19/13	KR	12/16/13	OP71436	EM4084
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	200	67	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	800	49	ug/kg	
95-48-7	2-Methylphenol	ND	80	46	ug/kg	
	3&4-Methylphenol	ND	80	51	ug/kg	
100-02-7	4-Nitrophenol	ND	400	68	ug/kg	
108-95-2	Phenol	ND	80	42	ug/kg	
83-32-9	Acenaphthene	ND	40	12	ug/kg	
120-12-7	Anthracene	ND	40	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	40	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	40	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	40	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	40	15	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	40	15	ug/kg	
92-52-4	1,1'-Biphenyl	ND	80	4.6	ug/kg	
218-01-9	Chrysene	ND	40	14	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	40	14	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	80	8.9	ug/kg	
84-66-2	Diethyl phthalate	ND	80	14	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	80	35	ug/kg	
206-44-0	Fluoranthene	ND	40	18	ug/kg	
86-73-7	Fluorene	ND	40	13	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	40	14	ug/kg	
91-57-6	2-Methylnaphthalene	ND	80	22	ug/kg	
91-20-3	Naphthalene	ND	40	11	ug/kg	
85-01-8	Phenanthrene	ND	40	18	ug/kg	
129-00-0	Pyrene	ND	40	15	ug/kg	
110-86-1	Pyridine	ND	80	16	ug/kg	
91-22-5	Quinoline	ND	200	38	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	82%		13-110%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-2C(0.0-2.0)		
Lab Sample ID:	JB54991-3	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	82.0
Project:	Sunoco - Marcus Hook Facility, PA		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	80%		15-110%
118-79-6	2,4,6-Tribromophenol	95%		20-123%
4165-60-0	Nitrobenzene-d5	74%		10-110%
321-60-8	2-Fluorobiphenyl	68%		17-110%
1718-51-0	Terphenyl-d14	86%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-2C(0.0-2.0)		
Lab Sample ID:	JB54991-3	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8011 SW846 8011	**Percent Solids:**	82.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53240.D	1	12/13/13	AMA	12/11/13	M:OP36152	M:GBB3111
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	3.0	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	112%		61-167%
460-00-4	Bromofluorobenzene (S)	111%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-2C(0.0-2.0)		
Lab Sample ID:	JB54991-3	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
		Percent Solids:	82.0
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	13.4	6.4	0.084	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]
Lead	8.9	2.6	0.27	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]
Nickel	17.9	5.1	0.10	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]
Vanadium	24.6	6.4	0.093	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]
Zinc	49.8	2.6	0.30	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA32897
(2) Prep QC Batch: MP76642

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH613-2C(2.0-4.0)		
Lab Sample ID:	JB54991-4	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8260B	**Percent Solids:**	81.3
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	D216117.D	1	12/12/13	CM	n/a	n/a	VD8828
Run #2 [a]	D216162.D	1	12/13/13	CM	n/a	n/a	VD8829

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.8 g	10.0 ml	100 ul
Run #2	5.8 g	10.0 ml	100 ul

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	120	15	ug/kg	
108-88-3	Toluene	ND	120	17	ug/kg	
100-41-4	Ethylbenzene	40.8	120	21	ug/kg	J
1330-20-7	Xylene (total)	ND	120	21	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	120	40	ug/kg	
135-98-8	sec-Butylbenzene	123	590	21	ug/kg	J
98-06-6	tert-Butylbenzene	40.9	590	19	ug/kg	J
110-82-7	Cyclohexane	8000	590	30	ug/kg	
107-06-2	1,2-Dichloroethane	ND	120	38	ug/kg	
110-54-3	Hexane	ND	590	63	ug/kg	
98-82-8	Isopropylbenzene	314	590	17	ug/kg	J
91-20-3	Naphthalene	ND	590	21	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	113	590	19	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	45.5	590	26	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%	95%	59-130%
17060-07-0	1,2-Dichloroethane-D4	108%	112%	65-123%
2037-26-5	Toluene-D8	138% [b]	139% [b]	80-124%
460-00-4	4-Bromofluorobenzene	96%	96%	71-132%

(a) Confirmation run for surrogate recoveries.
(b) outside control limits due to matrix interference.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-2C(2.0-4.0)		
Lab Sample ID:	JB54991-4	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	81.3
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M100158.D	1	12/19/13	KR	12/16/13	OP71436	EM4084
Run #2							

	Initial Weight	Final Volume
Run #1	31.5 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	200	66	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	780	48	ug/kg	
95-48-7	2-Methylphenol	ND	78	45	ug/kg	
	3&4-Methylphenol	ND	78	50	ug/kg	
100-02-7	4-Nitrophenol	ND	390	66	ug/kg	
108-95-2	Phenol	ND	78	41	ug/kg	
83-32-9	Acenaphthene	ND	39	11	ug/kg	
120-12-7	Anthracene	ND	39	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	39	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	39	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	39	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	39	15	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	39	15	ug/kg	
92-52-4	1,1'-Biphenyl	ND	78	4.5	ug/kg	
218-01-9	Chrysene	ND	39	13	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	39	13	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	78	8.7	ug/kg	
84-66-2	Diethyl phthalate	ND	78	13	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	54.9	78	34	ug/kg	J
206-44-0	Fluoranthene	ND	39	17	ug/kg	
86-73-7	Fluorene	ND	39	13	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	39	14	ug/kg	
91-57-6	2-Methylnaphthalene	58.4	78	22	ug/kg	J
91-20-3	Naphthalene	ND	39	11	ug/kg	
85-01-8	Phenanthrene	ND	39	18	ug/kg	
129-00-0	Pyrene	22.8	39	15	ug/kg	J
110-86-1	Pyridine	ND	78	16	ug/kg	
91-22-5	Quinoline	ND	200	37	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	85%		13-110%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-2C(2.0-4.0)		
Lab Sample ID:	JB54991-4	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	81.3
Project:	Sunoco - Marcus Hook Facility, PA		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	87%		15-110%
118-79-6	2,4,6-Tribromophenol	95%		20-123%
4165-60-0	Nitrobenzene-d5	76%		10-110%
321-60-8	2-Fluorobiphenyl	70%		17-110%
1718-51-0	Terphenyl-d14	92%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH613-2C(2.0-4.0)
Lab Sample ID: JB54991-4
Matrix: SO - Soil
Method: SW846 8011 SW846 8011
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/05/13
Date Received: 12/06/13
Percent Solids: 81.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53241.D	1	12/13/13	AMA	12/11/13	M:OP36152	M:GBB3111
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	3.0	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	118%		61-167%
460-00-4	Bromofluorobenzene (S)	103%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-2C(2.0-4.0)		
Lab Sample ID:	JB54991-4	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
		Percent Solids:	81.3
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	11.0	6.0	0.080	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]
Lead	7.1	2.4	0.26	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]
Nickel	12.6	4.8	0.095	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]
Vanadium	28.0	6.0	0.088	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]
Zinc	36.5	2.4	0.28	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA32897
(2) Prep QC Batch: MP76642

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH613-3C(0.0-2.0)		
Lab Sample ID:	JB54991-5	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8260B	**Percent Solids:**	84.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	D216118.D	1	12/12/13	CM	n/a	n/a	VD8828
Run #2	D216160.D	1	12/13/13	CM	n/a	n/a	VD8829

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.3 g	10.0 ml	100 ul
Run #2	6.3 g	10.0 ml	5.0 ul

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3210	100	13	ug/kg	
108-88-3	Toluene	101	100	15	ug/kg	
100-41-4	Ethylbenzene	9120	100	18	ug/kg	
1330-20-7	Xylene (total)	67000 [a]	2100	370	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	100	35	ug/kg	
135-98-8	sec-Butylbenzene	2310	520	19	ug/kg	
98-06-6	tert-Butylbenzene	ND	520	17	ug/kg	
110-82-7	Cyclohexane	215000 [a]	10000	530	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	33	ug/kg	
110-54-3	Hexane	69800 [a]	10000	1100	ug/kg	
98-82-8	Isopropylbenzene	2520	520	15	ug/kg	
91-20-3	Naphthalene	4950	520	19	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	37400 [a]	10000	330	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	16800	520	23	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%	97%	59-130%
17060-07-0	1,2-Dichloroethane-D4	118%	113%	65-123%
2037-26-5	Toluene-D8	269% [b]	118%	80-124%
460-00-4	4-Bromofluorobenzene	122%	93%	71-132%

(a) Result is from Run# 2
(b) Outside control limits due to matrix interference.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-3C(0.0-2.0)		
Lab Sample ID:	JB54991-5	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	84.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M100159.D	1	12/19/13	KR	12/16/13	OP71436	EM4084
Run #2							

	Initial Weight	Final Volume
Run #1	33.1 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	180	60	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	720	44	ug/kg	
95-48-7	2-Methylphenol	ND	72	41	ug/kg	
	3&4-Methylphenol	ND	72	45	ug/kg	
100-02-7	4-Nitrophenol	ND	360	60	ug/kg	
108-95-2	Phenol	ND	72	38	ug/kg	
83-32-9	Acenaphthene	ND	36	10	ug/kg	
120-12-7	Anthracene	ND	36	13	ug/kg	
56-55-3	Benzo(a)anthracene	ND	36	12	ug/kg	
50-32-8	Benzo(a)pyrene	ND	36	11	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	36	12	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	36	13	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	36	13	ug/kg	
92-52-4	1,1'-Biphenyl	196	72	4.1	ug/kg	
218-01-9	Chrysene	ND	36	12	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	36	12	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	72	7.9	ug/kg	
84-66-2	Diethyl phthalate	ND	72	12	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	51.4	72	32	ug/kg	J
206-44-0	Fluoranthene	ND	36	16	ug/kg	
86-73-7	Fluorene	ND	36	12	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	36	12	ug/kg	
91-57-6	2-Methylnaphthalene	3180	72	20	ug/kg	
91-20-3	Naphthalene	ND	36	9.8	ug/kg	
85-01-8	Phenanthrene	ND	36	16	ug/kg	
129-00-0	Pyrene	18.3	36	14	ug/kg	J
110-86-1	Pyridine	ND	72	14	ug/kg	
91-22-5	Quinoline	ND	180	34	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	83%		13-110%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-3C(0.0-2.0)		
Lab Sample ID:	JB54991-5	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	84.5
Project:	Sunoco - Marcus Hook Facility, PA		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	82%		15-110%
118-79-6	2,4,6-Tribromophenol	93%		20-123%
4165-60-0	Nitrobenzene-d5	94%		10-110%
321-60-8	2-Fluorobiphenyl	78%		17-110%
1718-51-0	Terphenyl-d14	88%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-3C(0.0-2.0)		
Lab Sample ID:	JB54991-5	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8011 SW846 8011	**Percent Solids:**	84.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53242.D	1	12/13/13	AMA	12/11/13	M:OP36152	M:GBB3111
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	2.9	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	115%		61-167%
460-00-4	Bromofluorobenzene (S)	91%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-3C(0.0-2.0)		
Lab Sample ID:	JB54991-5	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
		Percent Solids:	84.5
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	10.1	5.9	0.078	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]
Lead	20.7	2.4	0.25	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]
Nickel	18.2	4.7	0.094	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]
Vanadium	30.4	5.9	0.087	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]
Zinc	183	2.4	0.28	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA32897
(2) Prep QC Batch: MP76642

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH613-3C(2.0-4.0)		
Lab Sample ID:	JB54991-6	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8260B	**Percent Solids:**	84.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	D216119.D	1	12/12/13	CM	n/a	n/a	VD8828
Run #2	D216159.D	1	12/13/13	CM	n/a	n/a	VD8829

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.6 g	10.0 ml	100 ul
Run #2	6.6 g	10.0 ml	4.0 ul

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	9130	100	13	ug/kg	
108-88-3	Toluene	97.5	100	14	ug/kg	J
100-41-4	Ethylbenzene	26900 [a]	2500	440	ug/kg	
1330-20-7	Xylene (total)	86400 [a]	2500	440	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	43.0	100	34	ug/kg	J
135-98-8	sec-Butylbenzene	3240	500	18	ug/kg	
98-06-6	tert-Butylbenzene	ND	500	16	ug/kg	
110-82-7	Cyclohexane	328000 [a]	12000	640	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	32	ug/kg	
110-54-3	Hexane	92200 [a]	12000	1300	ug/kg	
98-82-8	Isopropylbenzene	5100	500	15	ug/kg	
91-20-3	Naphthalene	6860	500	18	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	51000 [a]	12000	400	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	19600	500	22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%	97%	59-130%
17060-07-0	1,2-Dichloroethane-D4	124% [b]	111%	65-123%
2037-26-5	Toluene-D8	379% [b]	122%	80-124%
460-00-4	4-Bromofluorobenzene	131%	95%	71-132%

(a) Result is from Run# 2
(b) Outside control limits due to matrix interference.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-3C(2.0-4.0)		
Lab Sample ID:	JB54991-6	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	84.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M100160.D	1	12/19/13	KR	12/16/13	OP71436	EM4084
Run #2	M100186.D	4	12/20/13	KR	12/16/13	OP71436	EM4086

	Initial Weight	Final Volume
Run #1	31.5 g	1.0 ml
Run #2	31.5 g	1.0 ml

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	190	63	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	760	46	ug/kg	
95-48-7	2-Methylphenol	ND	76	43	ug/kg	
	3&4-Methylphenol	ND	76	48	ug/kg	
100-02-7	4-Nitrophenol	ND	380	64	ug/kg	
108-95-2	Phenol	ND	76	40	ug/kg	
83-32-9	Acenaphthene	ND	38	11	ug/kg	
120-12-7	Anthracene	ND	38	13	ug/kg	
56-55-3	Benzo(a)anthracene	ND	38	12	ug/kg	
50-32-8	Benzo(a)pyrene	ND	38	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	38	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	38	14	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	38	14	ug/kg	
92-52-4	1,1'-Biphenyl	316	76	4.4	ug/kg	
218-01-9	Chrysene	ND	38	13	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	38	13	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	76	8.4	ug/kg	
84-66-2	Diethyl phthalate	ND	76	13	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	60.8	76	33	ug/kg	J
206-44-0	Fluoranthene	28.1	38	17	ug/kg	J
86-73-7	Fluorene	39.9	38	12	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	38	13	ug/kg	
91-57-6	2-Methylnaphthalene	5930 [a]	300	84	ug/kg	
91-20-3	Naphthalene	3160	38	10	ug/kg	
85-01-8	Phenanthrene	25.2	38	17	ug/kg	J
129-00-0	Pyrene	32.5	38	15	ug/kg	J
110-86-1	Pyridine	ND	76	15	ug/kg	
91-22-5	Quinoline	ND	190	36	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	91%	85%	13-110%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-3C(2.0-4.0)		
Lab Sample ID:	JB54991-6	**Date Sampled:**	12/05/13
Matrix:	SO - Soil	**Date Received:**	12/06/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	84.0
Project:	Sunoco - Marcus Hook Facility, PA		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	83%	84%	15-110%
118-79-6	2,4,6-Tribromophenol	98%	87%	20-123%
4165-60-0	Nitrobenzene-d5	105%	100%	10-110%
321-60-8	2-Fluorobiphenyl	79%	84%	17-110%
1718-51-0	Terphenyl-d14	95%	99%	30-124%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH613-3C(2.0-4.0)
Lab Sample ID: JB54991-6
Matrix: SO - Soil
Method: SW846 8011 SW846 8011
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/05/13
Date Received: 12/06/13
Percent Solids: 84.0

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53243.D	1	12/13/13	AMA	12/11/13	M:OP36152	M:GBB3111
Run #2							

	Initial Weight	Final Volume
Run #1	30.8 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	2.9	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	116%		61-167%
460-00-4	Bromofluorobenzene (S)	98%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH613-3C(2.0-4.0)
Lab Sample ID: JB54991-6
Matrix: SO - Soil
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/05/13
Date Received: 12/06/13
Percent Solids: 84.0

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	8.9	5.3	0.070	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]
Lead	31.8	2.1	0.23	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]
Nickel	17.1	4.3	0.084	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]
Vanadium	29.7	5.3	0.078	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]
Zinc	312	2.1	0.25	mg/kg	1	12/14/13	12/19/13	KK	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA32897
(2) Prep QC Batch: MP76642

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH613-4C(1.0)		
Lab Sample ID:	JB55122-1	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8260B	**Percent Solids:**	83.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y141661.D	1	12/14/13	PS	n/a	n/a	VY6135
Run #2							

	Initial Weight
Run #1	6.9 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.87	0.11	ug/kg	
108-88-3	Toluene	ND	0.87	0.12	ug/kg	
100-41-4	Ethylbenzene	ND	0.87	0.15	ug/kg	
1330-20-7	Xylene (total)	ND	0.87	0.15	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.87	0.30	ug/kg	
135-98-8	sec-Butylbenzene	ND	4.3	0.16	ug/kg	
98-06-6	tert-Butylbenzene	ND	4.3	0.14	ug/kg	
110-82-7	Cyclohexane	ND	4.3	0.22	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.87	0.28	ug/kg	
110-54-3	Hexane	ND	4.3	0.47	ug/kg	
98-82-8	Isopropylbenzene	ND	4.3	0.13	ug/kg	
91-20-3	Naphthalene	ND	4.3	0.16	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	4.3	0.14	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	4.3	0.19	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		59-130%
17060-07-0	1,2-Dichloroethane-D4	84%		65-123%
2037-26-5	Toluene-D8	101%		80-124%
460-00-4	4-Bromofluorobenzene	94%		71-132%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-4C(1.0)		
Lab Sample ID:	JB55122-1	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	83.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z87303.D	1	12/19/13	EP	12/16/13	OP71437	EZ4368
Run #2							

	Initial Weight	Final Volume
Run #1	31.6 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	190	64	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	760	46	ug/kg	
95-48-7	2-Methylphenol	ND	76	43	ug/kg	
	3&4-Methylphenol	ND	76	48	ug/kg	
100-02-7	4-Nitrophenol	ND	380	64	ug/kg	
108-95-2	Phenol	ND	76	40	ug/kg	
83-32-9	Acenaphthene	ND	38	11	ug/kg	
120-12-7	Anthracene	ND	38	13	ug/kg	
56-55-3	Benzo(a)anthracene	ND	38	12	ug/kg	
50-32-8	Benzo(a)pyrene	ND	38	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	38	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	38	14	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	38	14	ug/kg	
92-52-4	1,1'-Biphenyl	ND	76	4.4	ug/kg	
218-01-9	Chrysene	ND	38	13	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	38	13	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	76	8.4	ug/kg	
84-66-2	Diethyl phthalate	ND	76	13	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	76	33	ug/kg	
206-44-0	Fluoranthene	ND	38	17	ug/kg	
86-73-7	Fluorene	ND	38	12	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	38	13	ug/kg	
91-57-6	2-Methylnaphthalene	ND	76	21	ug/kg	
91-20-3	Naphthalene	ND	38	10	ug/kg	
85-01-8	Phenanthrene	ND	38	17	ug/kg	
129-00-0	Pyrene	ND	38	15	ug/kg	
110-86-1	Pyridine	ND	76	15	ug/kg	
91-22-5	Quinoline	ND	190	36	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	70%		13-110%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-4C(1.0)		
Lab Sample ID:	JB55122-1	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	83.6
Project:	Sunoco - Marcus Hook Facility, PA		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	69%		15-110%
118-79-6	2,4,6-Tribromophenol	100%		20-123%
4165-60-0	Nitrobenzene-d5	76%		10-110%
321-60-8	2-Fluorobiphenyl	84%		17-110%
1718-51-0	Terphenyl-d14	95%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH613-4C(1.0)
Lab Sample ID: JB55122-1
Matrix: SO - Soil
Method: SW846 8011 SW846 8011
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/09/13
Date Received: 12/09/13
Percent Solids: 83.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53253.D	1	12/13/13	AMA	12/12/13	M:OP36167	M:GBB3111
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	2.9	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	122%		61-167%
460-00-4	Bromofluorobenzene (S)	112%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH613-4C(1.0)
Lab Sample ID: JB55122-1
Matrix: SO - Soil
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/09/13
Date Received: 12/09/13
Percent Solids: 83.6

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	8.5	5.4	0.072	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Lead	28.5	2.2	0.23	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Nickel	17.8	4.3	0.086	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Vanadium	34.2	5.4	0.079	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Zinc	252	2.2	0.25	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA32909
(2) Prep QC Batch: MP76729

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH613-4C(3.5)		
Lab Sample ID:	JB55122-2	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8260B	**Percent Solids:**	79.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y141663.D	1	12/14/13	PS	n/a	n/a	VY6135
Run #2							

	Initial Weight
Run #1	6.6 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.95	0.12	ug/kg	
108-88-3	Toluene	ND	0.95	0.14	ug/kg	
100-41-4	Ethylbenzene	ND	0.95	0.17	ug/kg	
1330-20-7	Xylene (total)	ND	0.95	0.17	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.95	0.33	ug/kg	
135-98-8	sec-Butylbenzene	0.71	4.8	0.17	ug/kg	J
98-06-6	tert-Butylbenzene	0.95	4.8	0.16	ug/kg	J
110-82-7	Cyclohexane	0.69	4.8	0.24	ug/kg	J
107-06-2	1,2-Dichloroethane	ND	0.95	0.31	ug/kg	
110-54-3	Hexane	ND	4.8	0.51	ug/kg	
98-82-8	Isopropylbenzene	0.46	4.8	0.14	ug/kg	J
91-20-3	Naphthalene	0.86	4.8	0.17	ug/kg	J
95-63-6	1,2,4-Trimethylbenzene	ND	4.8	0.15	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	4.8	0.21	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		59-130%
17060-07-0	1,2-Dichloroethane-D4	85%		65-123%
2037-26-5	Toluene-D8	101%		80-124%
460-00-4	4-Bromofluorobenzene	90%		71-132%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-4C(3.5)		
Lab Sample ID:	JB55122-2	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	79.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z87304.D	1	12/19/13	EP	12/16/13	OP71437	EZ4368
Run #2							

	Initial Weight	Final Volume
Run #1	32.5 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	190	65	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	770	47	ug/kg	
95-48-7	2-Methylphenol	ND	77	44	ug/kg	
	3&4-Methylphenol	ND	77	49	ug/kg	
100-02-7	4-Nitrophenol	ND	390	65	ug/kg	
108-95-2	Phenol	ND	77	41	ug/kg	
83-32-9	Acenaphthene	ND	39	11	ug/kg	
120-12-7	Anthracene	ND	39	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	39	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	39	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	39	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	39	14	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	39	15	ug/kg	
92-52-4	1,1'-Biphenyl	ND	77	4.5	ug/kg	
218-01-9	Chrysene	ND	39	13	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	39	13	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	77	8.6	ug/kg	
84-66-2	Diethyl phthalate	ND	77	13	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	48.0	77	34	ug/kg	J
206-44-0	Fluoranthene	ND	39	17	ug/kg	
86-73-7	Fluorene	ND	39	13	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	39	13	ug/kg	
91-57-6	2-Methylnaphthalene	ND	77	22	ug/kg	
91-20-3	Naphthalene	ND	39	11	ug/kg	
85-01-8	Phenanthrene	ND	39	18	ug/kg	
129-00-0	Pyrene	ND	39	15	ug/kg	
110-86-1	Pyridine	ND	77	15	ug/kg	
91-22-5	Quinoline	ND	190	36	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	72%		13-110%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-4C(3.5)		
Lab Sample ID:	JB55122-2	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	79.6
Project:	Sunoco - Marcus Hook Facility, PA		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	63%		15-110%
118-79-6	2,4,6-Tribromophenol	88%		20-123%
4165-60-0	Nitrobenzene-d5	73%		10-110%
321-60-8	2-Fluorobiphenyl	74%		17-110%
1718-51-0	Terphenyl-d14	82%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-4C(3.5)		
Lab Sample ID:	JB55122-2	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8011 SW846 8011	**Percent Solids:**	79.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53254.D	1	12/13/13	AMA	12/12/13	M:OP36167	M:GBB3111
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	3.1	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	121%		61-167%
460-00-4	Bromofluorobenzene (S)	114%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-4C(3.5)		
Lab Sample ID:	JB55122-2	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
		Percent Solids:	79.6
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	8.7	6.4	0.085	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Lead	73.4	2.6	0.27	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Nickel	22.0	5.1	0.10	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Vanadium	26.8	6.4	0.093	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Zinc	1130	2.6	0.30	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA32909
(2) Prep QC Batch: MP76729

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH613-5C(1.5)		
Lab Sample ID:	JB55122-3	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8260B	**Percent Solids:**	83.8
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E210668.D	1	12/13/13	HSS	n/a	n/a	VE9245
Run #2	E210694.D	1	12/13/13	KC	n/a	n/a	VE9247

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.8 g	10.0 ml	100 ul
Run #2	6.8 g	10.0 ml	5.0 ul

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	97	12	ug/kg	
108-88-3	Toluene	4210	97	14	ug/kg	
100-41-4	Ethylbenzene	15500	97	17	ug/kg	
1330-20-7	Xylene (total)	263000 [a]	1900	350	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	97	33	ug/kg	
135-98-8	sec-Butylbenzene	ND	490	18	ug/kg	
98-06-6	tert-Butylbenzene	ND	490	16	ug/kg	
110-82-7	Cyclohexane	ND	490	25	ug/kg	
107-06-2	1,2-Dichloroethane	ND	97	31	ug/kg	
110-54-3	Hexane	ND	490	53	ug/kg	
98-82-8	Isopropylbenzene	207	490	14	ug/kg	J
91-20-3	Naphthalene	ND	490	18	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	328	490	16	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	152	490	22	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%	91%	59-130%
17060-07-0	1,2-Dichloroethane-D4	83%	89%	65-123%
2037-26-5	Toluene-D8	96%	97%	80-124%
460-00-4	4-Bromofluorobenzene	88%	95%	71-132%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-5C(1.5)		
Lab Sample ID:	JB55122-3	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	83.8
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z87305.D	1	12/19/13	EP	12/16/13	OP71437	EZ4368
Run #2							

	Initial Weight	Final Volume
Run #1	32.1 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	535	190	62	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	740	45	ug/kg	
95-48-7	2-Methylphenol	62.6	74	42	ug/kg	J
	3&4-Methylphenol	73.2	74	47	ug/kg	J
100-02-7	4-Nitrophenol	ND	370	63	ug/kg	
108-95-2	Phenol	ND	74	39	ug/kg	
83-32-9	Acenaphthene	ND	37	11	ug/kg	
120-12-7	Anthracene	ND	37	13	ug/kg	
56-55-3	Benzo(a)anthracene	23.9	37	12	ug/kg	J
50-32-8	Benzo(a)pyrene	19.7	37	11	ug/kg	J
205-99-2	Benzo(b)fluoranthene	28.9	37	12	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	23.7	37	14	ug/kg	J
207-08-9	Benzo(k)fluoranthene	ND	37	14	ug/kg	
92-52-4	1,1'-Biphenyl	ND	74	4.3	ug/kg	
218-01-9	Chrysene	27.3	37	13	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	37	13	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	74	8.3	ug/kg	
84-66-2	Diethyl phthalate	ND	74	13	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	74	33	ug/kg	
206-44-0	Fluoranthene	44.1	37	16	ug/kg	
86-73-7	Fluorene	ND	37	12	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	16.3	37	13	ug/kg	J
91-57-6	2-Methylnaphthalene	ND	74	21	ug/kg	
91-20-3	Naphthalene	ND	37	10	ug/kg	
85-01-8	Phenanthrene	32.2	37	17	ug/kg	J
129-00-0	Pyrene	37.4	37	14	ug/kg	
110-86-1	Pyridine	ND	74	15	ug/kg	
91-22-5	Quinoline	ND	190	35	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	62%		13-110%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-5C(1.5)		
Lab Sample ID:	JB55122-3	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	83.8
Project:	Sunoco - Marcus Hook Facility, PA		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	63%		15-110%
118-79-6	2,4,6-Tribromophenol	95%		20-123%
4165-60-0	Nitrobenzene-d5	75%		10-110%
321-60-8	2-Fluorobiphenyl	81%		17-110%
1718-51-0	Terphenyl-d14	88%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-5C(1.5)		
Lab Sample ID:	JB55122-3	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8011 SW846 8011	**Percent Solids:**	83.8
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53255.D	1	12/13/13	AMA	12/12/13	M:OP36167	M:GBB3111
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	3.0	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	118%		61-167%
460-00-4	Bromofluorobenzene (S)	102%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-5C(1.5)		
Lab Sample ID:	JB55122-3	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
		Percent Solids:	83.8
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	8.1	5.6	0.073	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Lead	15.1	2.2	0.24	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Nickel	15.1	4.5	0.088	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Vanadium	33.0	5.6	0.081	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Zinc	51.9	2.2	0.26	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA32909
(2) Prep QC Batch: MP76729

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH613-5C(3.0)		
Lab Sample ID:	JB55122-4	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8260B	**Percent Solids:**	81.1
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E210669.D	1	12/13/13	HSS	n/a	n/a	VE9245
Run #2	E210695.D	1	12/13/13	KC	n/a	n/a	VE9247

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.1 g	10.0 ml	100 ul
Run #2	6.1 g	10.0 ml	10.0 ul

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	110	14	ug/kg	
108-88-3	Toluene	7660	110	16	ug/kg	
100-41-4	Ethylbenzene	8080	110	20	ug/kg	
1330-20-7	Xylene (total)	93300 [a]	1100	200	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	110	39	ug/kg	
135-98-8	sec-Butylbenzene	ND	560	20	ug/kg	
98-06-6	tert-Butylbenzene	ND	560	18	ug/kg	
110-82-7	Cyclohexane	ND	560	29	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	36	ug/kg	
110-54-3	Hexane	ND	560	61	ug/kg	
98-82-8	Isopropylbenzene	73.5	560	17	ug/kg	J
91-20-3	Naphthalene	ND	560	21	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	123	560	18	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	27.3	560	25	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%	90%	59-130%
17060-07-0	1,2-Dichloroethane-D4	84%	89%	65-123%
2037-26-5	Toluene-D8	96%	99%	80-124%
460-00-4	4-Bromofluorobenzene	88%	92%	71-132%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-5C(3.0)		
Lab Sample ID:	JB55122-4	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	81.1
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z87306.D	1	12/19/13	EP	12/16/13	OP71437	EZ4368
Run #2							

	Initial Weight	Final Volume
Run #1	32.6 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	186	190	64	ug/kg	J
51-28-5	2,4-Dinitrophenol	ND	760	46	ug/kg	
95-48-7	2-Methylphenol	ND	76	43	ug/kg	
	3&4-Methylphenol	ND	76	48	ug/kg	
100-02-7	4-Nitrophenol	ND	380	64	ug/kg	
108-95-2	Phenol	ND	76	40	ug/kg	
83-32-9	Acenaphthene	ND	38	11	ug/kg	
120-12-7	Anthracene	33.4	38	13	ug/kg	J
56-55-3	Benzo(a)anthracene	34.9	38	12	ug/kg	J
50-32-8	Benzo(a)pyrene	21.9	38	12	ug/kg	J
205-99-2	Benzo(b)fluoranthene	28.1	38	13	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	22.5	38	14	ug/kg	J
207-08-9	Benzo(k)fluoranthene	ND	38	14	ug/kg	
92-52-4	1,1'-Biphenyl	ND	76	4.4	ug/kg	
218-01-9	Chrysene	30.0	38	13	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	38	13	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	76	8.4	ug/kg	
84-66-2	Diethyl phthalate	ND	76	13	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	76	33	ug/kg	
206-44-0	Fluoranthene	106	38	17	ug/kg	
86-73-7	Fluorene	26.1	38	12	ug/kg	J
193-39-5	Indeno(1,2,3-cd)pyrene	ND	38	13	ug/kg	
91-57-6	2-Methylnaphthalene	ND	76	21	ug/kg	
91-20-3	Naphthalene	ND	38	10	ug/kg	
85-01-8	Phenanthrene	121	38	17	ug/kg	
129-00-0	Pyrene	112	38	15	ug/kg	
110-86-1	Pyridine	ND	76	15	ug/kg	
91-22-5	Quinoline	ND	190	36	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	73%		13-110%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-5C(3.0)		
Lab Sample ID:	JB55122-4	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	81.1
Project:	Sunoco - Marcus Hook Facility, PA		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	65%		15-110%
118-79-6	2,4,6-Tribromophenol	100%		20-123%
4165-60-0	Nitrobenzene-d5	78%		10-110%
321-60-8	2-Fluorobiphenyl	82%		17-110%
1718-51-0	Terphenyl-d14	94%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH613-5C(3.0)
Lab Sample ID: JB55122-4
Matrix: SO - Soil
Method: SW846 8011 SW846 8011
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/09/13
Date Received: 12/09/13
Percent Solids: 81.1

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53256.D	1	12/13/13	AMA	12/12/13	M:OP36167	M:GBB3111
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	3.1	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	118%		61-167%
460-00-4	Bromofluorobenzene (S)	101%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-5C(3.0)		
Lab Sample ID:	JB55122-4	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
		Percent Solids:	81.1
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	7.2	6.0	0.079	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Lead	18.8	2.4	0.25	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Nickel	14.4	4.8	0.094	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Vanadium	31.2	6.0	0.087	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Zinc	61.7	2.4	0.28	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA32909
(2) Prep QC Batch: MP76729

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH613-1C(1.0)		
Lab Sample ID:	JB55122-5	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8260B	**Percent Solids:**	81.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y141705.D	1	12/15/13	PS	n/a	n/a	VY6136
Run #2							

	Initial Weight
Run #1	6.3 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.98	0.12	ug/kg	
108-88-3	Toluene	ND	0.98	0.14	ug/kg	
100-41-4	Ethylbenzene	0.35	0.98	0.17	ug/kg	J
1330-20-7	Xylene (total)	1.1	0.98	0.17	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.98	0.33	ug/kg	
135-98-8	sec-Butylbenzene	ND	4.9	0.18	ug/kg	
98-06-6	tert-Butylbenzene	ND	4.9	0.16	ug/kg	
110-82-7	Cyclohexane	ND	4.9	0.25	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.98	0.31	ug/kg	
110-54-3	Hexane	ND	4.9	0.53	ug/kg	
98-82-8	Isopropylbenzene	ND	4.9	0.14	ug/kg	
91-20-3	Naphthalene	ND	4.9	0.18	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	4.9	0.16	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	4.9	0.22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		59-130%
17060-07-0	1,2-Dichloroethane-D4	85%		65-123%
2037-26-5	Toluene-D8	101%		80-124%
460-00-4	4-Bromofluorobenzene	93%		71-132%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-1C(1.0)		
Lab Sample ID:	JB55122-5	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	81.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z87307.D	1	12/19/13	EP	12/16/13	OP71437	EZ4368
Run #2							

	Initial Weight	Final Volume
Run #1	33.2 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	190	62	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	740	45	ug/kg	
95-48-7	2-Methylphenol	ND	74	42	ug/kg	
	3&4-Methylphenol	ND	74	47	ug/kg	
100-02-7	4-Nitrophenol	ND	370	63	ug/kg	
108-95-2	Phenol	ND	74	39	ug/kg	
83-32-9	Acenaphthene	ND	37	11	ug/kg	
120-12-7	Anthracene	ND	37	13	ug/kg	
56-55-3	Benzo(a)anthracene	ND	37	12	ug/kg	
50-32-8	Benzo(a)pyrene	ND	37	11	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	37	12	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	37	14	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	37	14	ug/kg	
92-52-4	1,1'-Biphenyl	ND	74	4.3	ug/kg	
218-01-9	Chrysene	ND	37	13	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	37	13	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	74	8.2	ug/kg	
84-66-2	Diethyl phthalate	ND	74	13	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	74	33	ug/kg	
206-44-0	Fluoranthene	ND	37	16	ug/kg	
86-73-7	Fluorene	ND	37	12	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	37	13	ug/kg	
91-57-6	2-Methylnaphthalene	ND	74	21	ug/kg	
91-20-3	Naphthalene	ND	37	10	ug/kg	
85-01-8	Phenanthrene	ND	37	17	ug/kg	
129-00-0	Pyrene	ND	37	14	ug/kg	
110-86-1	Pyridine	ND	74	15	ug/kg	
91-22-5	Quinoline	ND	190	35	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	73%		13-110%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-1C(1.0)		
Lab Sample ID:	JB55122-5	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	81.4
Project:	Sunoco - Marcus Hook Facility, PA		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	70%		15-110%
118-79-6	2,4,6-Tribromophenol	77%		20-123%
4165-60-0	Nitrobenzene-d5	84%		10-110%
321-60-8	2-Fluorobiphenyl	82%		17-110%
1718-51-0	Terphenyl-d14	91%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH613-1C(1.0)
Lab Sample ID: JB55122-5
Matrix: SO - Soil
Method: SW846 8011 SW846 8011
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/09/13
Date Received: 12/09/13
Percent Solids: 81.4

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53257.D	1	12/13/13	AMA	12/12/13	M:OP36167	M:GBB3111
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	3.0	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	120%		61-167%
460-00-4	Bromofluorobenzene (S)	107%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH613-1C(1.0)
Lab Sample ID: JB55122-5
Matrix: SO - Soil
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/09/13
Date Received: 12/09/13
Percent Solids: 81.4

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	4.3 B	6.4	0.085	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Lead	11.6	2.6	0.27	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Nickel	14.5	5.2	0.10	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Vanadium	28.9	6.4	0.094	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Zinc	44.9	2.6	0.30	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA32909
(2) Prep QC Batch: MP76729

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH613-1C(3.5)		
Lab Sample ID:	JB55122-6	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8260B	**Percent Solids:**	82.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E210670.D	1	12/13/13	HSS	n/a	n/a	VE9245
Run #2 [a]	E210693.D	1	12/13/13	KC	n/a	n/a	VE9247

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.8 g	10.0 ml	100 ul
Run #2	6.8 g	10.0 ml	25.0 ul

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	33.1	100	13	ug/kg	J
108-88-3	Toluene	ND	100	14	ug/kg	
100-41-4	Ethylbenzene	308	100	17	ug/kg	
1330-20-7	Xylene (total)	1420	100	18	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	100	34	ug/kg	
135-98-8	sec-Butylbenzene	1930	500	18	ug/kg	
98-06-6	tert-Butylbenzene	332	500	16	ug/kg	J
110-82-7	Cyclohexane	13500	500	26	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	32	ug/kg	
110-54-3	Hexane	ND	500	54	ug/kg	
98-82-8	Isopropylbenzene	701	500	15	ug/kg	
91-20-3	Naphthalene	ND	500	18	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	500	16	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	500	22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	87%	90%	59-130%
17060-07-0	1,2-Dichloroethane-D4	88%	92%	65-123%
2037-26-5	Toluene-D8	191% [b]	122%	80-124%
460-00-4	4-Bromofluorobenzene	114%	95%	71-132%

(a) Confirmation run for surrogate recoveries.
(b) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-1C(3.5)		
Lab Sample ID:	JB55122-6	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	82.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z87308.D	1	12/19/13	EP	12/16/13	OP71437	EZ4368
Run #2							

	Initial Weight	Final Volume
Run #1	33.4 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	180	61	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	730	44	ug/kg	
95-48-7	2-Methylphenol	ND	73	41	ug/kg	
	3&4-Methylphenol	ND	73	46	ug/kg	
100-02-7	4-Nitrophenol	ND	360	61	ug/kg	
108-95-2	Phenol	ND	73	38	ug/kg	
83-32-9	Acenaphthene	ND	36	11	ug/kg	
120-12-7	Anthracene	ND	36	13	ug/kg	
56-55-3	Benzo(a)anthracene	ND	36	12	ug/kg	
50-32-8	Benzo(a)pyrene	ND	36	11	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	36	12	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	36	14	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	36	14	ug/kg	
92-52-4	1,1'-Biphenyl	ND	73	4.2	ug/kg	
218-01-9	Chrysene	ND	36	12	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	36	12	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	73	8.1	ug/kg	
84-66-2	Diethyl phthalate	ND	73	12	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	73	32	ug/kg	
206-44-0	Fluoranthene	ND	36	16	ug/kg	
86-73-7	Fluorene	ND	36	12	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	36	13	ug/kg	
91-57-6	2-Methylnaphthalene	42.3	73	20	ug/kg	J
91-20-3	Naphthalene	ND	36	9.9	ug/kg	
85-01-8	Phenanthrene	ND	36	17	ug/kg	
129-00-0	Pyrene	ND	36	14	ug/kg	
110-86-1	Pyridine	ND	73	15	ug/kg	
91-22-5	Quinoline	ND	180	34	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	76%		13-110%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-1C(3.5)		
Lab Sample ID:	JB55122-6	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	82.5
Project:	Sunoco - Marcus Hook Facility, PA		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	70%		15-110%
118-79-6	2,4,6-Tribromophenol	94%		20-123%
4165-60-0	Nitrobenzene-d5	80%		10-110%
321-60-8	2-Fluorobiphenyl	79%		17-110%
1718-51-0	Terphenyl-d14	88%		30-124%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH613-1C(3.5)		
Lab Sample ID:	JB55122-6	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8011 SW846 8011	**Percent Solids:**	82.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53258.D	1	12/13/13	AMA	12/12/13	M:OP36167	M:GBB3111
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	3.0	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	142%		61-167%
460-00-4	Bromofluorobenzene (S)	126%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH613-1C(3.5)
Lab Sample ID: JB55122-6
Matrix: SO - Soil
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/09/13
Date Received: 12/09/13
Percent Solids: 82.5

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	5.2 B	6.0	0.079	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Lead	8.7	2.4	0.25	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Nickel	10.1	4.8	0.094	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Vanadium	32.0	6.0	0.087	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]
Zinc	36.5	2.4	0.28	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA32909
(2) Prep QC Batch: MP76729

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH614-3C(1.5)		
Lab Sample ID:	JB55122-7	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8260B	**Percent Solids:**	83.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y141612.D	1	12/13/13	PS	n/a	n/a	VY6133
Run #2							

	Initial Weight
Run #1	6.2 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.96	0.12	ug/kg	
108-88-3	Toluene	ND	0.96	0.14	ug/kg	
100-41-4	Ethylbenzene	0.38	0.96	0.17	ug/kg	J
1330-20-7	Xylene (total)	2.4	0.96	0.17	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.96	0.33	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.96	0.31	ug/kg	
98-82-8	Isopropylbenzene	0.84	4.8	0.14	ug/kg	J
95-63-6	1,2,4-Trimethylbenzene	ND	4.8	0.15	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	4.8	0.21	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		59-130%
17060-07-0	1,2-Dichloroethane-D4	83%		65-123%
2037-26-5	Toluene-D8	100%		80-124%
460-00-4	4-Bromofluorobenzene	100%		71-132%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH614-3C(1.5)		
Lab Sample ID:	JB55122-7	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8270D SW846 3546	**Percent Solids:**	83.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	F70890.D	1	12/20/13	AMA	12/12/13	M:OP36179	M:MSF3164
Run #2							

	Initial Weight	Final Volume
Run #1	20.4 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	15	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	13	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	12	ug/kg	
218-01-9	Chrysene	ND	120	15	ug/kg	
86-73-7	Fluorene	ND	120	16	ug/kg	
91-20-3	Naphthalene	ND	120	19	ug/kg	
85-01-8	Phenanthrene	ND	120	16	ug/kg	
129-00-0	Pyrene	ND	120	14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		30-130%
321-60-8	2-Fluorobiphenyl	82%		30-130%
1718-51-0	Terphenyl-d14	83%		30-130%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH614-3C(1.5)		
Lab Sample ID:	JB55122-7	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8011 SW846 8011	**Percent Solids:**	83.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53259.D	1	12/13/13	AMA	12/12/13	M:OP36167	M:GBB3111
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	3.0	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	118%		61-167%
460-00-4	Bromofluorobenzene (S)	101%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH614-3C(1.5)		
Lab Sample ID:	JB55122-7	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
		Percent Solids:	83.6
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	31.7	2.4	0.25	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA32909
(2) Prep QC Batch: MP76729

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH614-3C(3.4)		
Lab Sample ID:	JB55122-8	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8260B	**Percent Solids:**	83.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E210671.D	1	12/13/13	HSS	n/a	n/a	VE9245
Run #2	E210696.D	1	12/13/13	KC	n/a	n/a	VE9247
Run #3	E210791.D	1	12/17/13	KC	n/a	n/a	VE9251

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.6 g	10.0 ml	100 ul
Run #2	6.6 g	10.0 ml	1.0 ul
Run #3	6.6 g	10.0 ml	0.20 ul

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	30.0	100	13	ug/kg	J
108-88-3	Toluene	6180	100	14	ug/kg	
100-41-4	Ethylbenzene	817000 [a]	10000	1800	ug/kg	
1330-20-7	Xylene (total)	13400000 [b]	50000	9000	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	100	35	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	32	ug/kg	
98-82-8	Isopropylbenzene	12800	500	15	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	12200	500	16	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	8230	500	22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
1868-53-7	Dibromofluoromethane	86%	90%	92%	59-130%
17060-07-0	1,2-Dichloroethane-D4	82%	90%	92%	65-123%
2037-26-5	Toluene-D8	96%	98%	96%	80-124%
460-00-4	4-Bromofluorobenzene	92%	93%	96%	71-132%

(a) Result is from Run# 2
(b) Result is from Run# 3

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH614-3C(3.4)
Lab Sample ID: JB55122-8
Matrix: SO - Soil
Method: SW846 8270D SW846 3546
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/09/13
Date Received: 12/09/13
Percent Solids: 83.4

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	F70891.D	1	12/20/13	AMA	12/12/13	M:OP36179	M:MSF3164
Run #2							

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	15	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	13	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	12	ug/kg	
218-01-9	Chrysene	ND	120	15	ug/kg	
86-73-7	Fluorene	22.2	120	16	ug/kg	J
91-20-3	Naphthalene	279	120	19	ug/kg	
85-01-8	Phenanthrene	ND	120	16	ug/kg	
129-00-0	Pyrene	15.9	120	14	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	65%		30-130%
321-60-8	2-Fluorobiphenyl	81%		30-130%
1718-51-0	Terphenyl-d14	84%		30-130%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MH614-3C(3.4)
Lab Sample ID: JB55122-8
Matrix: SO - Soil
Method: SW846 8011 SW846 8011
Project: Sunoco - Marcus Hook Facility, PA

Date Sampled: 12/09/13
Date Received: 12/09/13
Percent Solids: 83.4

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53261.D	1	12/13/13	AMA	12/12/13	M:OP36167	M:GBB3111
Run #2							

	Initial Weight	Final Volume
Run #1	30.6 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	2.9	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	121%		61-167%
460-00-4	Bromofluorobenzene (S)	104%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH614-3C(3.4)		
Lab Sample ID:	JB55122-8	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
		Percent Solids:	83.4
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	30.1	2.5	0.26	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA32909
(2) Prep QC Batch: MP76729

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH615-3C(1.0)		
Lab Sample ID:	JB55122-9	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8260B	**Percent Solids:**	79.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y141613.D	1	12/13/13	PS	n/a	n/a	VY6133
Run #2	E210763.D	1	12/16/13	KC	n/a	n/a	VE9249

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.6 g		
Run #2	6.3 g	10.0 ml	100 ul

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	15400 [a]	110	14	ug/kg	
108-88-3	Toluene	150	0.95	0.13	ug/kg	
100-41-4	Ethylbenzene	9.3	0.95	0.17	ug/kg	
1330-20-7	Xylene (total)	4210 [a]	110	20	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.95	0.33	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.95	0.31	ug/kg	
98-82-8	Isopropylbenzene	0.93	4.8	0.14	ug/kg	J
95-63-6	1,2,4-Trimethylbenzene	93.2	4.8	0.15	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	51.6	4.8	0.21	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%	90%	59-130%
17060-07-0	1,2-Dichloroethane-D4	87%	91%	65-123%
2037-26-5	Toluene-D8	95%	95%	80-124%
460-00-4	4-Bromofluorobenzene	92%	93%	71-132%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-3C(1.0)		
Lab Sample ID:	JB55122-9	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8270D SW846 3546	**Percent Solids:**	79.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	F70892.D	1	12/20/13	AMA	12/12/13	M:OP36179	M:MSF3164
Run #2							

	Initial Weight	Final Volume
Run #1	20.3 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	15	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	16	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	13	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	12	ug/kg	
218-01-9	Chrysene	ND	120	15	ug/kg	
86-73-7	Fluorene	ND	120	16	ug/kg	
91-20-3	Naphthalene	ND	120	20	ug/kg	
85-01-8	Phenanthrene	ND	120	17	ug/kg	
129-00-0	Pyrene	ND	120	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%		30-130%
321-60-8	2-Fluorobiphenyl	88%		30-130%
1718-51-0	Terphenyl-d14	89%		30-130%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-3C(1.0)		
Lab Sample ID:	JB55122-9	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8011 SW846 8011	**Percent Solids:**	79.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53262.D	1	12/13/13	AMA	12/12/13	M:OP36167	M:GBB3111
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	3.1	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	117%		61-167%
460-00-4	Bromofluorobenzene (S)	99%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-3C(1.0)		
Lab Sample ID:	JB55122-9	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
		Percent Solids:	79.7
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	30.1	2.5	0.27	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA32909
(2) Prep QC Batch: MP76729

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	MH615-3C(3.5)		
Lab Sample ID:	JB55122-10	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8260B	**Percent Solids:**	82.9
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E210692.D	1	12/13/13	KC	n/a	n/a	VE9247
Run #2	E210792.D	1	12/17/13	KC	n/a	n/a	VE9251

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.3 g	10.0 ml	100 ul
Run #2	6.3 g	10.0 ml	10.0 ul

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	43800 [a]	1100	130	ug/kg	
108-88-3	Toluene	480	110	15	ug/kg	
100-41-4	Ethylbenzene	911	110	19	ug/kg	
1330-20-7	Xylene (total)	456	110	19	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	110	36	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	34	ug/kg	
98-82-8	Isopropylbenzene	422	530	16	ug/kg	J
95-63-6	1,2,4-Trimethylbenzene	ND	530	17	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	530	23	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%	92%	59-130%
17060-07-0	1,2-Dichloroethane-D4	91%	93%	65-123%
2037-26-5	Toluene-D8	139%	99%	80-124%
460-00-4	4-Bromofluorobenzene	110%	93%	71-132%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-3C(3.5)		
Lab Sample ID:	JB55122-10	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.9
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	F70893.D	1	12/20/13	AMA	12/12/13	M:OP36179	M:MSF3164
Run #2							

	Initial Weight	Final Volume
Run #1	20.4 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	15	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	13	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	12	ug/kg	
218-01-9	Chrysene	30.1	120	15	ug/kg	J
86-73-7	Fluorene	ND	120	16	ug/kg	
91-20-3	Naphthalene	ND	120	19	ug/kg	
85-01-8	Phenanthrene	76.5	120	16	ug/kg	J
129-00-0	Pyrene	37.2	120	14	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	69%		30-130%
321-60-8	2-Fluorobiphenyl	81%		30-130%
1718-51-0	Terphenyl-d14	84%		30-130%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-3C(3.5)		
Lab Sample ID:	JB55122-10	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
Method:	SW846 8011 SW846 8011	**Percent Solids:**	82.9
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB53263.D	1	12/13/13	AMA	12/12/13	M:OP36167	M:GBB3111
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	3.0	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	117%		61-167%
460-00-4	Bromofluorobenzene (S)	95%		61-167%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MH615-3C(3.5)		
Lab Sample ID:	JB55122-10	**Date Sampled:**	12/09/13
Matrix:	SO - Soil	**Date Received:**	12/09/13
		Percent Solids:	82.9
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	12.5	2.4	0.25	mg/kg	1	12/18/13	12/21/13	SM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA32909
(2) Prep QC Batch: MP76729

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

New Jersey ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Chain of Custody (Accutest Labs of New England, Inc.)

ACCUTEST LABORATORIES

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CHAIN OF CUSTODY

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FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # JB54835

Client / Reporting Information

Company Name: STANTEC
Street Address: 1060 ANDREW DR. SUITE 140
City: WEST CHESTER State: PA Zip: 19380
Project Contact: JENNIFER MENGES E-mail:
Phone #: Fax #:
Sampler(s) Name(s): J. CORBETT Phone #:

Project Information

Project Name: SUNOCO – MARCUS HOOK
Street:
City: State:
Project #: 213402353.204
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)
Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet): V8260SL, V8011EDB, 8270SL, PB

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB-Equipment Blank, RB- Rinse Blank, TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	V8260SL, V8011EDB, 8270SL, PB	LAB USE ONLY
1	MH615-1C (0.0-2.0)		12.5.13	1415		SO	5					2	2	1		X	M24
2	MH615-1C (2.0-4.0)			1420												X	1402
3	MH615-2C (0.0-2.0)			1430												X	4066
4	MH615-2C (2.0-4.0)			1435												X	
5	MH615-4C (0.0-2.0)			1440												X	SUB
6	MH615-4C (2.0-4.0)			1450												X	
7	MH614-1C (0.0-2.0)			1455												X	
8	MH614-1C (2.0-4.0)			1500												X	

D.I. slurry voc vials frozen storage
Date: 12/5/13 Time: 2033 Initials: GL

Turnaround Time (Business days)

- ☐ Std. 10 Business Days
- ☒ 5 Day RUSH
- ☐ 3 Day EMERGENCY
- ☐ 2 Day EMERGENCY
- ☐ 1 Day EMERGENCY
- ☐ other

Approved By (Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- ☐ Commercial "A" (Level 1)
- ☐ Commercial "B" (Level 2)
- ☐ FULLT1 (Level 3+4)
- ☐ NJ Reduced
- ☐ Commercial "C"
- ☐ NYASP Category A
- ☐ NYASP Category B
- ☐ State Forms
- ☒ EDD Format EQUIS
- ☐ Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler: 1 [signature]	Date Time: 12.5.13 / 1600	Received By: 1 [signature]	Relinquished By: 2 [signature]	Date Time: 12/5/13 1900	Received By: 2 [signature]
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # None	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☑ Cooler Temp. 3.6 C-19

JB54835: Chain of Custody
Page 1 of 9

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB54835 **Client:** **Project:**

Date / Time Received: 12/5/2013 **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (3.6/3.6); 0

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservatio	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

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JB54835: Chain of Custody
Page 2 of 9

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FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # JB55122

Client / Reporting Information

Company Name: Stantec
Street Address: 1060 Andrew Dr. Suite 140
City: West Chester State: PA Zip: 19380
Project Contact: Jennifer Menges E-mail
Phone # Fax #
Sampler(s) Name(s): J. Corbett / J. Richter Phone #

Project Information

Project Name: Sunoco - Marcus Hook
Street
City State
Project #: 213402353.204
Client Purchase Order #
Project Manager

Billing Information (if different from Report to)
Company Name
Street Address
City State Zip
Attention:

Requested Analysis (see TEST CODE sheet)

Analysis columns: (A) V8260SL, V8011EDB, B8270SL, PB; (B) V8260SL2, V8011EDB, AB8270SL, Co, Ni, PB, V, ZN

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	(A)	(B)	LAB USE ONLY
1	MH613-4C(1.0)	[illegible]	12.9.13	1305	JR	SO	5					2	2	1			X	M28
2	MH613-4C(3.5)	[illegible]	12.9.13	1307	JC	SO	6					3	2	1			X	14P1
3	MH613-5C(1.5)	[illegible]	12.9.13	1315	JR	SO	6					3	2	1			X	4077
4	MH613-5C(3.0)	[illegible]	12.9.13	1317	JC	SO	6					3	2	1			X	
5	MH613-1C(1.0)	[illegible]	12.9.13	1330	JC	SO	6					3	2	1			X	SUB
6	MH613-1C(3.5)	[illegible]	12.9.13	1335	JR	SO	6					3	2	1			X	
7	MH614-3C(1.5)	[illegible]	12.9.13	1340	JC	SO	6					3	2	1		X		
8	MH614-3C(3.4)	[illegible]	12.9.13	1345	JR	SO	6					3	2	1		X		
9	MH615-3C(1.0)	[illegible]	12.9.13	1355	JC	SO	6					3	2	1		X		
10	MH615-3C(3.5)	[illegible]	12.9.13	1400	JR	SO	6					3	2	1		X		

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB-Equipment Blank, RB- Rinse Blank, TB-Trip Blank

Turnaround Time (Business days)

- [X] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] other

Approved By (Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [X] EDD Format EQuIS
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Rec'd at Exton Service Center

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1 Relinquished by Sampler: [signature]	12.9.13 / 1500	1 [signature]	2 [signature]	12/9/13 1535	2 [signature]
3 Relinquished by Sampler:	12/9/13 1105	3 [signature]	4 Relinquished By:	Date Time:	4 Received By:
5 Relinquished by:	Date Time:	5 Received By:	Custody Seal #	[ ] Intact [ ] Not intact; Preserved where applicable [ ]	On Ice [X] Cooler Temp. 1.1 2.1G

1/6

JB54835: Chain of Custody
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5.1

5

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB55122 **Client:** **Project:**

Date / Time Received: 12/9/2013 **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (1.1/1.1); 0

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservatio	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

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JB54835: Chain of Custody
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ACCUTEST LABORATORIES

Job Change Order: JB55122

Requested Date:	12/10/2013	**Received Date:**	12/9/2013
Account Name:	Stantec Consulting Services Inc.	**Due Date:**	12/23/2013
Project Description:	Sunoco - Marcus Hook Facility, PA	**Deliverable:**	REDT2
CSR:	kristinb	**TAT (Days):**	14

Sample #: JB55122-ALL

Dept:

Change:
Please move samples to JB54835. Note that samples were subbed to ALNE also.

Above Changes Per: Client / Jennifer Menges **Date:** 12/10/2013

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.

Page 1 of 1

ACCUTEST LABORATORIES

Job Change Order: JB54991

Requested Date:	12/10/2013	**Received Date:**	12/6/2013
Account Name:	Stantec Consulting Services Inc.	**Due Date:**	12/20/2013
Project Description:	Sunoco - Marcus Hook Facility, PA	**Deliverable:**	REDT2
CSR:	kristinb	**TAT (Days):**	14

Sample #: JB54991-ALL

Dept:

Change:

Please move samples to JB54835. Note that samples were subbed to ALNE also.

Above Changes Per: Client / Jennifer Menges **Date:** 12/10/2013

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.

Page 1 of 1

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FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # JB54991

Client / Reporting Information

Company Name: STANTEC
Street Address: 1060 ANDREW DR SUITE 140
City: WEST CHESTER, State: PA, Zip: 19335
Project Contact: JENNIFER MENGES, E-mail:
Phone #: , Fax #:
Sampler(s) Name(s): J. CORBETT, Phone #:

Project Information

Project Name: SUNOCO- MARCUS HOOK
Street:
City: , State:
Project #: 213402353
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)
Company Name:
Street Address:
City: , State: , Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

A: V8260SL, V8011EDB, B8270SL, PB
B: V8260SL2, V8011EDB, AB8270SL, CO, NI, PB, V, ZN

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	A	B	LAB USE ONLY
1	MH614-2C (0.0-2.0)		12.5.13	1000	JC	SO	5					2	2	1		X		M25
2	MH614-2C (2.0-4.0)		12.5.13	1005	JC	SO	5					2	2	1		X		1406
3	MH613-2C (0.0-2.0)		12.5.13	1010	JC	SO	5					2	2	1			X	4075
4	MH613-2C (2.0-4.0)		12.5.13	1015	JC	SO	5					2	2	1			X	
5	MH613-3C (0.0-2.0)		12.5.13	1020	JC	SO	5					2	2	1			X	SUB
6	MH613-3C (2.0-4.0)		12.5.13	1025	JC	SO	5					2	2	1			X	

D.I. slurry voc vials frozen storage
Date: ____ Time: ____ Initials: ____

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB-Equipment Blank, RB- Rinse Blank, TB-Trip Blank

Turnaround Time (Business days)

- [X] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] other ______

Approved By (Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [X] EDD Format EQUIS
- [ ] Other ______

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Rec'd at Exton Service Center

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	12.6.13 / 1200	1 [signature]	2 [signature]	12/6/13 1600	2 [signature]
Relinquished by Sampler: 3 [signature]	Date Time: 12/6/13 1930	Received By: 3 [signature]	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [ ] On Ice [X] Cooler Temp. 1.5 C/G

STantec 12/6/13
JB54991

SAMPLE #	MEOH VIAL	D.I. VIAL	D.I. VIAL
1	8088	5322	5321
2	5220	7882	7881
3	8089	5324	~~5323~~ 5323
4	8087	5340	5339
5	8092	5330	5329
6	8091	5328	5327
7			
8			
9			
10			
11			
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50			

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB54991 **Client:** **Project:**

Date / Time Received: 12/6/2013 **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (1.5/1.5); 0

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservatio	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

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JB54835: Chain of Custody
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ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Page 1 of 1 SE/S

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www.accutest.com

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: JB54835

Client / Reporting Information

Company Name: Accutest Laboratories
Street Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Project Contact: kristinb E-mail: kristinb@accutest.com
Phone #: 732-329-0200 Fax #:
Sampler(s) Name(s): JC Phone:

Project Information

Project Name: Sunoco - Marcus Hook Facility, PA
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

B8270SL ,PB ,V8011EDB ,

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	B8270SL ,PB ,V8011EDB ,	LAB USE ONLY
1	MH615-1C(0.0-2.0)		12/5/13	2:15:00 PM	JC	SO	2					2				X	M24, SUB
2	MH615-1C(2.0-4.0)		12/5/13	2:20:00 PM	JC	SO	2					2				X	M24, SUB
3	MH615-2C(0.0-2.0)		12/5/13	2:30:00 PM	JC	SO	2					2				X	M24, SUB
4	MH615-2C(2.0-4.0)		12/5/13	2:35:00 PM	JC	SO	2					2				X	M24, SUB
5	MH615-4C(0.0-2.0)		12/5/13	2:40:00 PM	JC	SO	2					2				X	M24, SUB
6	MH615-4C(2.0-4.0)		12/5/13	2:50:00 PM	JC	SO	2					2				X	M24, SUB
7	MH614-1C(0.0-2.0)		12/5/13	2:55:00 PM	JC	SO	2					2				X	M24, SUB
8	MH614-1C(2.0-4.0)		12/5/13	3:00:00 PM	JC	SO	2					2				X	M24, SUB
																	9F,

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 12/19/2013

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other REDT2

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Send 300ml for B8270SL/met, send 60ml for V8011EDB

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Fernando	12-6-13 19:00	1 FEDEX	2 FP	12/9/13 1040	2
3			3	4		4
5			5			

Custody Seal # 874-875 [ ] Intact [ ] Not Intact — Preserved where applicable [ ] — On Ice [X] — Cooler Temp: 0.3°, 3.8°

JB54835: Chain of Custody
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Accutest Labs of New England, Inc.

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: JB54991

Client / Reporting Information	Project Information	Billing Information (if different from Report to)
Company Name: Accutest Laboratories	Project Name: Sunoco - Marcus Hook Facility, PA	
Street Address: 2235 Route 130	Street:	Company Name:
City: Dayton State: NJ Zip: 08810	City: State:	Street Address:
Project Contact: kristinb E-mail: kristinb@accutest.com	Project #:	City: State: Zip:
Phone #: 732-329-0200 Fax #:	Client Purchase Order #:	Attention:
Sampler(s) Name(s): JC Phone:	Project Manager:	

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	ABB270SL, V8011EDB	B8270SL, V8011EDB,	LAB USE ONLY
1	MH614-2C(0.0-2.0)		12/5/13	10:00:00 AM	JC	SO	2*					2					X	SUB, M25*
2	MH614-2C(2.0-4.0)		12/5/13	10:05:00 AM	JC	SO	2*					2					X	SUB, M25*
3	MH613-2C(0.0-2.0)		12/5/13	10:10:00 AM	JC	SO	2*					2				X		SUB, M25*
4	MH613-2C(2.0-4.0)		12/5/13	10:15:00 AM	JC	SO	2*					2				X		SUB, M25*
5	MH613-3C(0.0-2.0)		12/5/13	10:20:00 AM	JC	SO	2*					2				X		SUB, M25*
6	MH613-3C(2.0-4.0)		12/5/13	10:25:00 AM	JC	SO	2*					2				X		SUB, M25*
																		10C

Turnaround Time (Business days) | Data Deliverable Information | Comments / Special Instructions

Approved By (Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 12/20/2013

Emergency & Rush T/A data available VIA Lablink

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULL T1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other REDT2

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

* Please aliquot 10g of SO from 300ml bottle received for each sample (location M25). 10g aliquot is to be kept in ALNJ for METALS analysis. Send 60ml jar in SUB location for V8011EDB.

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Fernando	12-9-13 17:20	FEDEX	FX	12/10/13 9:30	
2						
3						
4						
5						

Custody Seal # 905 [ ] Intact [ ] Not Intact | Preserved where applicable [ ] | On Ice [X] Cooler Temp. 1.3°

5.2 5

JB54835: Chain of Custody
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CHAIN OF CUSTODY

ACCUTEST LABORATORIES
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: JB55122

Client / Reporting Information

Company Name: Accutest Laboratories
Street Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Project Contact: kristinb E-mail: kristinb@accutest.com
Phone #: 732-329-0200 Fax #:
Sampler(s) Name(s): JR Phone:

Project Information

Project Name: Sunoco - Marcus Hook Facility, PA
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	AB8270SL, V8011EDB,	B8270SL, V8011EDB,	LAB USE ONLY
1	MH613-4C(1.0)		12/9/13	1:05:00 PM	JR	SO	2*					2				X		M28, SUB
2	MH613-4C(1.0)		12/9/13	1:07:00 PM	JR	SO	2*					2				X		M28, SUB
3	MH613-4C(1.0)		12/9/13	1:15:00 PM	JR	SO	2*					2				X		M28, SUB
4	MH613-4C(1.0)		12/9/13	1:17:00 PM	JR	SO	2*					2				X		M28, SUB
5	MH613-4C(1.0)		12/9/13	1:30:00 PM	JR	SO	2*					2				X		M28, SUB
6	MH613-4C(1.0)		12/9/13	1:35:00 PM	JR	SO	2*					2				X		M28, SUB
7	MH613-4C(1.0)		12/9/13	1:40:00 PM	JR	SO	2*					2					X	M28, SUB
8	MH613-4C(1.0)		12/9/13	1:45:00 PM	JR	SO	2*					2					X	M28, SUB
9	MH613-4C(1.0)		12/9/13	1:55:00 PM	JR	SO	2*					2					X	M28, SUB
10	MH613-4C(1.0)		12/9/13	2:00:00 PM	JR	SO	2*					2					X	M28, SUB

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 12/23/2013

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULL T1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other REDT2

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

*ALIQUOT NEEDED - Please send for each sample (1) 60ml bottle and (1) 300ml bottle. Aliquot 10g from the 300ml bottle prior to shipping to keep in ALNJ for METALS analysis. Locations are noted on COC.

10F

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Fernando	12.10.13 17:00	1 FEDEX	2 FEDX	12-11-13 930	2
3			3	4		4
5			5	Custody Seal # 911 [ ] Intact [ ] Not intact	Preserved where applicable [ ]	On Ice [✓] Cooler Temp 3.2

ACCUTEST LABORATORIES

Job Change Order: JB54991

Requested Date:	12/10/2013	**Received Date:**	12/6/2013
Account Name:	Stantec Consulting Services Inc.	**Due Date:**	12/20/2013
Project Description:	Sunoco - Marcus Hook Facility, PA	**Deliverable:**	REDT2
CSR:	kristinb	**TAT (Days):**	14

Sample #: JB54991-ALL

Dept:

Change:

Please move samples to JB54835. Note that samples were subbed to ALNE also.

Above Changes Per: Client / Jennifer Menges **Date:** 12/10/2013

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.

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JB54835: Chain of Custody

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ACCUTEST LABORATORIES

Job Change Order: JB55122

Requested Date:	12/10/2013	**Received Date:**	12/9/2013
Account Name:	Stantec Consulting Services Inc.	**Due Date:**	12/23/2013
Project Description:	Sunoco - Marcus Hook Facility, PA	**Deliverable:**	REDT2
CSR:	kristinb	**TAT (Days):**	14

Sample #: JB55122-ALL

Dept:

Change:

Please move samples to JB54835. Note that samples were subbed to ALNE also.

Above Changes Per: Client / Jennifer Menges **Date:** 12/10/2013

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.

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JB54835: Chain of Custody

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ACCUTEST LABORATORIES

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Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB54835 **Client:** ACNJ **Immediate Client Services Action Required:** No

Date / Time Received: 12/9/2013 **Delivery Method:** **Client Service Action Required at Login:** No

Project: SUB **No. Coolers:** 2 **Airbill #'s:**

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Infared gun		
3. Cooler media:	Ice (bag)		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com

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